

Application of San Diego Gas & Electric
Company (U-902-M) for Approval of
Electric and Natural Gas Energy Efficiency
Programs and Budgets for Years 2009
through 2011

Application 08-07- 023

Exhibit No.: _____

Witness: Athena M. Besa

**FIRST AMENDMENT TO THE MARCH 2, 2009
AMENDED PREPARED DIRECT TESTIMONY OF
SAN DIEGO GAS & ELECTRIC COMPANY**

CHAPTER II

REVISED

Appendix B: Program Implementation Plans

Volume 3 of 3

Partnerships/Local and Third Party Programs

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

MARCH 31, 2009

Partnerships/

Local Programs

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

1) Program Name and Program ID number

Program Name: Local Institutional Partnerships
Program ID number: TBD

SDG&E Master Program Implementation Plan, Statewide Institutional Partnerships, referencing the below programs:

ID#	Program	Sub-Program
	California Community Colleges Partnership (CCC)	Sub-Program IV*
	California Dept. of Corrections and Rehabilitation Partnership (CDCR)	Sub-Program I*
	State of California Partnership (State of CA)	Sub-Program II*
	UC/CSU Partnership (UC/CSU)	Sub-Program III*
	San Diego County Water Authority Partnership	Sub-Program V*
	University of San Diego Partnership	Sub-Program VI*

* Each Sub-Program PIP is referenced in this document by designated Roman numeral.

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
Local Institutional Partnerships						
	L-InstP01 - CA Depart of Corrections Partnership	520,297	228,732	1,001,294	0	1,750,323
	L-InstP02 - CA Community College Partnership	387,575	268,191	839,305.5	0	1,495,071
	L-InstP03 - UC/CSU/IOU Partnership	942,208	385,256	2,759,810	0	4,087,273
	L-InstP04 - State of California /IOU Partnership	520,297	228,732	1,001,294	0	1,750,323
	L-InstP05 - University of San Diego Partnership	798,710	12,038	0	0	810,747
	L-InstP06 - San Diego City Water Auth Partnership	1,013,597	164,232	13,816	0	1,191,645
	TOTAL:	\$ 4,182,684	\$ 1,287,180	\$ 5,615,518	\$ -	\$ 11,085,382

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
Local Institutional Partnerships				
	L-InstP01 - CA Dept of Corrections Partnership			
	L-InstP02 - CA Community College Partnership			
	L-InstP03 - UC/CSU/IOU Partnership			
	L-InstP04 - State of California /IOU Partnership			
	L-InstP05 - University of San Diego Partnership			
	L-InstP06 - San Diego Cnty Water Auth Partnership			
	TOTAL:	0	0	0

Note: Partnerships are considered non-resource programs and serve as a delivery mechanism for IOU programs.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Element Description and Implementation Plan

Institutional Partnerships are designed to create dynamic and symbiotic working relationships between Investor-Owned Utilities (IOU), state or local governments and agencies or educational institutions. The objective is to reduce energy usage through facility and equipment improvements, share best practices, and provide education and training to key personnel. San Diego Gas and Electric Company's (SDG&E) 2009-2011 statewide partnership portfolio will focus strongly on supporting the key California Energy Efficiency Strategic Plan (CEESP) goal of Demand Side Management (DSM) integration and coordination, which includes establishing integration procedures, piloting DSM integration programs, and improving regulatory coordination. The 2009-2011 Institutional Partnerships will also concentrate on innovative delivery channels and funding mechanisms to meet current economic conditions and achieve program integration and savings.

In the 2006-08 program cycle, SDG&E successfully implemented four statewide institutional partnership programs; California Community Colleges (CCC), University of California and California State University (UC/CSU), California Department of Corrections and Rehabilitation (CDCR), and the State of California Energy Efficiency Partnership. Each statewide program was managed in conjunction with the other IOUs in the State of California. The 2009-2011 Institutional Partnerships will leverage off the past successes of the 2006-2008 Energy Efficiency portfolio and also strive to enhance offerings to meet the unique challenges of our institutional partners.

SDG&E has developed a strong history of working closely with a variety of institutional customers to improve energy efficiency. These partnerships enable customers to focus on; conservation, demand response, load shifting, and renewable energy within their facilities. In doing so, the partnerships assist institutional agencies comply with the state's CEESP and specific mandates enforced by the Governor. Additionally, the partnerships enable the institutional agencies to learn about and utilize innovative

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programs. They help the partners integrate efficiency into their overall plan and budget. By their very nature the partnerships facilitate collaboration between utilities, institutional agencies, and technical experts.

The cooperative nature of the partnerships, as well as the enhanced awareness they place on energy efficiency, has enabled many large projects at institutional facilities to be implemented that otherwise would have failed had they not been championed by partnership teams. In prior years, many partnerships achieved several million kWh of savings that might have otherwise been lost or installed with less-efficient equipment resulting in lower savings achieved. Institutional partnerships help to provide a streamlined and comprehensive approach to the customer, eliminating competition and confusion between IOU offerings.

Institutional Partnerships have evolved over the years to not only deliver energy savings but to include well established management teams. These management teams are comprised of IOU staff and representatives from institutional partners for each statewide partnership. The primary focus of the management teams is to present a consolidated approach to project management. The management team also assists the partner in identifying facilities that can be thoroughly audited; utilizing a comprehensive building approach to maximize the energy efficient potential. The management team reviews potential projects and develops working documents to illustrate payback and return on investments. This approach allows for projects to be prioritized and evaluated for potential implementation.

In addition, the partnerships have demonstrated that the three pillars of the Strategic Plan—Innovation, Integration, and Collaboration—are indeed the key to achieving the next generation of cost-effective, energy efficiency programs and the resulting reduction in greenhouse gas (GHG) emissions. Institutional partnerships capitalize on the vast opportunities for efficiency improvements and utilize the resources and expertise of IOU staff to ensure successful and cost-effective programs that meets all objectives of the California Public Utilities Commission (CPUC or Commission).

With the rising costs of energy and the current economic situation, partnerships will be vital in helping to offset project costs for customers and allowing continued advancement in the area of energy efficiency. Each Statewide program has developed strategies to allow for new opportunities as partnerships are forged and projects are implemented.

The four sub-programs proposed are listed and described below. Individual Program Implementation Plans (PIPs) for each are provided later in the document

Program Elements for Institutional Partnerships

The adoption and coordination of the 3 core elements (Institutional Facilities, Strategic Plan and Core Program Coordination) are represented below and have been agreed upon through discussions with IOUs and CPUC. Below is a list of core and sub-program elements that will be pursued by all partnerships. Elements that are unique to a single or a few partnerships will be described separately in sub-program PIPs.

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Core Program Elements	Sub-Program Elements	Type of Program Element
1 – Government and Institutional Facilities	Energy Efficiency Retrofits	Resource
	Retro-Commissioning (RCx) & Monitoring Based Commissioning (MBCx)	Resource
	Demand Response New Construction	Demand Response Resource
	Program Administrative Management and Engineering Support	Non-Resource (technical assistance for project management, training, audits, etc.)
	On-Bill Financing	Non-Resource
2 – Strategic Plan Support	Code Compliance Support	Non-Resource
	Reach Code Support	Non-Resource
	Guiding Document(s) Support	Non-Resource
	Funding Sources	Non-Resource
	Peer-to-Peer Support	Non-Resource
3 – Core Program Coordination	Outreach & Education	Non-Resource
	New Construction and Demand Response	Resource – Demand Response
	Third Party Program Coordination	Non-Resource
	Emerging Technologies	Non-Resource
	Technical assistance for program management, training, audits, etc.	Non-Resource

Energy Efficiency Retrofits

This energy efficiency element could include: 1) lighting retrofit projects such as complete internal and external lighting retrofits (T5 technology, LED applications, newer 28 watt T8's, and in some cases replacing magnetic ballasts and T12 lamps), building-wide lighting controls, and boiler replacements, 2) Replacement of motors, variable frequency drives, energy management system upgrades, and HVAC upgrades/replacements including; chiller replacements and central plant upgrades. The partnerships will investigate opportunities to include energy efficiency measures in all major new construction and renovation projects, special repair projects, and standard scheduled maintenance operations.

To reduce peak demand and create energy savings in the existing facilities of the institutional partners, the partnerships will work with the facilities staff of the various customers to identify facilities and develop a pool of retrofit projects for implementation. Partnerships will also utilize benchmarking to identify retrofit candidates. The scope of the projects will be contingent on the availability of funds; however, the partnerships will work to ensure that projects are lined up in the event that additional funding is secured.

Each of the partnerships will have methodologies for identifying projects that work within their respective organizational structures. The identification strategy will involve the partnership teams preparing lists of potential projects matching the institutional customers with available budgets and existing modernization plans. Identification of potential sites includes utilities providing lists of service accounts with their annual consumption and peak demand values and consultants visiting probable sites to evaluate the efficiency upgrade potential of those sites.

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In some cases and where applicable, institutional partners will use of the U.S. Department of Energy's Portfolio Manager to identify eligible candidates for energy efficiency projects. High-scoring buildings (above 75) typically meet the requirements of Executive Order S-20-04 in their optimization of energy use. Lower-scoring buildings are identified as candidates for potential energy efficiency programs. This process allows the IOUs and the institutional partners to make the best cost-effective choice in installing energy efficient measures.

Retro-Commissioning and Monitoring-Based Commissioning

Each partnership will work to implement retro-commissioning (RCx) and/or monitoring-based commissioning (MCBx) projects. Some partnerships have already implemented such programs in some of their facilities, and they will continue to expand the number of facilities benefiting from these services. Others will work to implement them for the first time in a smaller number of facilities.

The RCx and MBCx projects will serve as opportunities to demonstrate a cost-effective approach to optimizing facility operations, saving both electric and gas energy, reducing operating costs while improving occupancy comfort, and improving environmental quality and reducing greenhouse gas emissions. The outcome of the projects will serve as an example to other internal departments within each customer organization, to other government agencies, and to private sector entities to encourage them to retro-commission their facilities.

Activities for this element may include but are not limited to the following:

- Selecting candidate buildings for RCx or MBCx based on results of benchmarking efforts or participation in the SDG&E retro-commissioning program.
- Developing RCx/MBCx plans for each candidate building.
- Investigating opportunities through technical assessments of major building systems (lighting, HVAC, etc.).
- Conducting pre-functional tests of building systems.
- Identifying and correcting minor no-cost/low-cost deficiencies as well as capital improvement measures for future planning that may further improve system operation.
- Utilizing modeling/simulation software to model building operation and determine scenarios for optimum performance.
- Conducting functional performance tests to ensure proper operation of the optimized systems.
- Developing training manuals and monitoring capabilities (if applicable) to ensure persistence of energy savings.

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- Developing plans to comply with the governor's executive order and/or local government directives for future benchmarking and RCx activities.

New Construction and Design Assistance

The partnerships will strive to achieve energy efficiency within all new buildings constructed by the partner institutions. Although the partner institutions have overarching directives that strive for laudable energy efficiency goals, these goals are not always implemented in practice. Budget and other constraints, as well as lack of concern, awareness, or knowledge, inhibit the realization of these goals in many new construction projects.

The ability of the partnership management teams to even be aware of all new construction projects varies significantly between the partnerships. The ability of the partnerships, or even the institutional representatives on the partnership teams, to actually control the implementation of energy efficiency in these new construction projects is even more limited. Therefore, education about energy efficiency and increasing both awareness of and concern about the subject among key decision-makers is a vital role of the partnerships, both for retrofits and new construction. The success of the partnerships in reaching all (or most) of the new construction projects is dependent upon their ability to bring various agencies, departments, and managers together under the energy efficiency umbrella.

For new construction projects, the partnerships' initial goal is to become aware of the various ongoing and planned projects within their institutions. This will be an easier task for the more centralized partners and more difficult for partners with distributed control.

Once the partnership teams are aware of new construction projects, they will work with the key decision makers to make sure they are on board with the importance of energy efficiency. The partnerships will also work closely with the utilities' Commercial New Construction Programs to provide assistance to the design teams for the new facilities. Because new construction energy efficiency is more effective when brought on board in the early design stages, the partnerships will strive to be pro-active in this manner, reaching out to newly planned projects as soon as they become known.

Funding Sources

Federal grants, state financing, local bonds, IOU incentives, O&M budgets, and on-bill financing are potential funding sources. The partnership team and participating institutional partners may explore additional financing alternatives such as rebates, on-bill credit, CEC funding, and independent financing to maximize the state's investment in energy efficiency.

Often the strengths of the customer organizations are leveraged in order to provide various in-kind contributions that benefit the entire program. These

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contributions include but are not limited to project management, facility personnel, marketing, site location venues and administrative time.

On-Bill Financing

On-Bill Financing offering will provide zero to low interest financing for qualifying energy efficiency installations of lighting, refrigeration, and air conditioning measures for PG&E's Market Segments, such as the Commercial and Industrial Market Segments and for government and institutional partnership programs.

All participating customers will be pre-qualified for a loan based on the customers' utility bill and payment history. The length of the loan may vary depending on the customer segment and measure life. Typically, a business loan will not exceed a 5 year term, while a government or institutional loan will usually not exceed a 7 year term. In addition, the length of the loan will also be capped at the length of measure life.

Loans will have a range from a minimum of \$5,000 to approximately \$250,000 for government and institutions. Maximum amount for government and institutions may vary by partnership and customer segments and will be subject to further research.

Many of the government and institutions are unable to incorporate energy efficiency designs or retrofits due to the lack of capital funds and complex procurement and funding procedures after the initial budget has been approved. The OBF element can be an effective tool that will increase participation and minimize lost opportunities.

Demand Response

Demand response programs provide tariff-based benefits to customers implementing demand response activities. For demand response initiatives involving the purchase and installation of equipment by PG&E business customers, a plan will be developed to provide a financial incentive for energy savings resulting from the equipment supplied through the partnership program.

Partnerships will look for opportunities to integrate demand response and other DSM services into the program implementation plan. Resources will be leveraged to improve implementation efficiency and reduce transactional impacts on partnership staff. IOU energy efficiency and demand response program staff will collaborate with partners to conduct comprehensive audits and identify energy efficiency measures and demand response opportunities. The approach will reduce technical resources by combining EE/DR audits to avoid duplication and collaborate on incentive offerings which will all minimize customer interruptions.

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The partners will venture to identify facilities or an aggregation of facilities under a service account in order to establish opportunities for demand response participation.

Statewide Programs	Description	Sources of Funding & Assistance
California Dept. of Corrections and Rehabilitation Partnership	The CDCR/IOU partnership is a customized statewide energy efficiency partnership program that accomplishes immediate, long-term peak energy demand savings and establishes a permanent framework for sustainable, long-term comprehensive energy management programs at CDCR institutions served by California's four large IOU's.	Federal grants (specifically for new construction and modernization), state financing, IOU incentives and on-bill financing opportunities in accordance with CEESP objectives.
State of California Partnership	State of California/Investor-Owned Utilities (IOU) are collaborating to assist the state's 36 agencies to reduce the amount of energy they purchase by 20 percent by 2015, as required by the governor's Executive Order S-20-04 (i.e. Green Building Initiative (GBI)). Like all Executive Orders, the GBI is an unfunded mandate that requires State agencies to support the governor's environmental agenda.	Federal grants (potential), state financing, IOU incentives, comprehensive technical assistance and on-bill financing opportunities in accordance with CEESP objectives.
UC/CSU/IOU Partnership	The University of California, California State University (UC/CSU), Southern California Edison (SCE) and the IOUs are collaborating to continue the this Partnership to share energy efficiency best practices and implement energy efficiency projects for immediate and long-term energy savings and peak demand reduction.	State financing, local bonds, IOU incentives, comprehensive technical assistance and on-bill financing opportunities in accordance with CEESP objectives.
California Community Colleges Partnership	The CCC/IOU Energy Efficiency Partnership has been a successful collaboration between the California Community Colleges (CCC) and the four Investor-Owned Utilities (IOUs). The CCC is a two-year public institution of higher education that is composed of 109 colleges statewide and organized into 72 self-governing Districts.	Federal grants, state financing, local bonds, IOU incentives, comprehensive technical assistance and on-bill financing opportunities in accordance with CEESP objectives.

- a) *List measures (technologies and corresponding incentive levels) to be provided in program and as used to develop the program's measure groupings described in Appendix A. May be included as an appendix to this PIP.*

The energy efficiency measures identified by all partnerships include both electric and gas measures.

Measure Categories	Technologies
Lighting	Includes indoor and outdoor fluorescent, HID, LED replacements, lighting controls, and other lighting projects.
Controls and other Equipment	Includes fans, motors, VFDs, air compressors, EMS systems and other equipment not covered under the lighting or HVAC categories.

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Measure Categories	Technologies
Air Conditioning and Refrigeration	Air conditioning and refrigeration- Includes system and major subsystem replacements such as central plants, chiller/boiler retrofits, whole building, and any other energy efficiency components in major infrastructure projects;
Other	New Construction, RCx, MBCx

- All program delivery mechanisms such as third parties and other innovative delivery techniques are provided at designated program incentive rates.
- Incentives will be paid on projects based on a cents per kWh saved. These rates are an average of \$.24/kwh saved (for UC/CSU/CCC/CDCR, and State of CA) and will be detailed in the sub program for the specific partnership. Incentives are paid by the utility to the agency upon completion of the project. They are based upon the agreed-upon energy savings determined as part of the project evaluation, subject to changes made during the project’s implementation. All gas savings will be at \$1.00 per therm.

Incentive levels are referenced for each specific partnership in Sub-Program PIP I, II, III, IV, Section 6, iii.

b) List non-incentive customer services

The Institutional and Government Partnerships may include non-energy activities such as presentations at industry and association events, attendance at conferences, meetings, and community/outreach fairs. Distribution of marketing materials will be included at each event. Additional services include:

- Quality Assurance and Evaluation
- Training and education
- Design assistance
- Due diligence / project review
- Strategic Plan Support
- Core Program Coordination
- Funding Sources
- Program Administration and Management Support
- Support of State Assembly Bills, Senate Bills, and Executive Orders

1) Program Rationale and Expected Outcome²

SDG&E and the other IOUs face the challenge of implementing cost effective energy efficiency programs that will result in immediate, long-term peak energy and demand savings in their service territories. The institutional partnerships consume vast quantities

² To be provided for each program and sub-program in PIP.

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of energy and make up a significant portion of the both the electric and natural gas load in the State of California. These entities are large, complex organizations with a broad set of goals, stakeholders, processes and constituencies. They are diverse from a geographic, climate, and operational needs standpoint. But with this size and diversity also comes a considerable opportunity to save energy use and cost on a scale that is meaningful to the IOUs and to California. Institutional partners also frequently struggle to fund and implement energy efficiency activities because of budgetary and resource issues. The Institutional Energy Efficiency Partnership Program is designed to meet these challenges.

Partnerships help provide a streamlined approach to institutional customers. Each utility dedicates a specific management team to support a portfolio approach, provide additional resources, and introduce innovative ideas to meeting the dynamics of institutional customers. Utility incentives and funding mechanisms help make energy efficient projects more cost effective and viable for institutional customers during the current economic times.

The expected outcomes for the 2009-2011 partnership programs include:

Partnerships will continue to:

- Lead and coordinate all energy efficiency, demand response, and solar initiatives by being the main point of contact for DSM offerings coordinating all projects, including Energy Efficiency (EE), Demand Response (DR), California Solar Initiative (CSI), Self Generation Incentive (SGIP) Programs as applicable to the partner.
- Leverage Partners' communications and outreach infrastructure to reach customers and/or internal departments more effectively,
- Provide co-marketing and technical support services dependent upon the customer's specific needs,
- Serve a key and growing role in creating and maintaining goodwill between the utilities and public sector customers. Institutional Partnerships build strong relationships statewide with the other IOUs and statewide customers, as well as with cities and counties.
- Continue to successfully develop new partnerships enhanced by the following improvements:
 - Direct a stronger focus on helping partners lead by example through addressing energy efficiency opportunities in their own facilities. Specifically, the partnerships will provide (1) technical assistance in identifying energy efficiency retrofit and retro-commissioning (RCx) projects, (2) financial assistance to help overcome barriers to implementation of these projects, and (3) combination EE/DR audits.
 - The partnership will seek opportunities to facilitate enhanced compliance with codes and standards. (AB 32, LEED, Exceeding Title 24 standards, etc.)

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- Help to integrate the offering of demand-side management (DSM) programs and design strategies that will assist with the California Energy Efficiency Strategic Plan (CEESP).
 - Energy efficiency and demand response audits will be integrated and the partnership management team will actively coordinate all DSM services.
 - Simplify and standardize state policies and codes guiding local building design and zoning codes.
 - Building the capability to lead by example in energy-related technologies
 - Maximize energy efficiency in new and existing construction and/or statewide policy
 - Rapidly upgrade and expand energy efficiency training and information for energy managers and maintenance personnel.
- Align energy efficiency program opportunities closely with Green Rating opportunities, and increase program participation by ensuring that green rating systems reflect or parallel program offerings.

Expected Outcomes

The partnerships will deliver energy savings and peak demand reduction in the facilities of the partner customers and other government agencies. These energy savings will be accomplished by evaluating the energy efficiency potential of existing buildings and then implementing retrofits and/or retro commissioning in some of those buildings. Additional savings will be achieved by working in the early stages of new construction projects to assure the most energy-efficient design acceptable to the customer (and to increase the desire to make highly energy-efficient designs “acceptable”).

Other program results will include:

- Showing that, with upper management support for energy efficiency, the customers can create opportunities to save energy, reduce operating costs, and improve occupany comfort.
- Demonstrating that the partnership programs can be extremely cost-effective in the implementation of energy projects by supplementing the customers’ project funding with the incentives offered by the utilities.
- Evaluating the value of energy efficiency activities and the benefits associated with retro-commissioning.
- Exhibiting the potential for future public/private partnership efforts.
- Conducting a comprehensive survey of the potential for energy projects at customer facilities, identifying the best candidates for retro-commissioning or retrofitting, and constructing a long-term plan for the implementation of these projects. These energy project plans will be important to ensure that the customers continue to plan and implement energy efficiency projects beyond the term of the partnership so that the reduction in energy consumption occurs by the 2015 deadline.

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- Developing opportunities for various government agencies to share best practices and lessons learned from partnership activities, especially in the areas of benchmarking, energy efficiency, retrofits, retro-commissioning, and emerging technology.
- Increasing awareness of energy efficiency among elected leaders, agency managers, operating staff, and the general public.
- Publicizing the benefits of utility incentive programs within various government agencies.
- Providing specific information to the constituents of the institutional partners regarding the partners' achievements in energy efficiency as well as environmental improvements such as reducing greenhouse gases.
- Provide new and innovative ways to fund and implement energy efficient projects.

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1 Quantitative Baseline and Market Transformation Information

Market Transformation (MT) metrics proposed in Tables 3 and 4 are preliminary. The proposed metrics are meant to initiate a collaborative effort to elaborate meaningful metrics that will provide overall indicators of how markets as a whole are evolving. MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments.

Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”³ The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies⁴.

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal relationships, and 9) market structures⁵. Markets are social institutions⁶, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains⁷ as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress⁸. According to York⁹, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

³ California Public Utilities Commission Decision, D.98-04-063, Appendix A.

⁴ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>

⁵ Pelozo, J., and York, D. (1999). “Market Transformation: A Guide for Program Developers.” Energy Center of Wisconsin. Available at: <http://www.ecw.org/ecwresults/189-1.pdf>

⁶ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.eceee.org/conference_proceedings/eceee/2001/Panel_2/p2_7/Paper/

⁷ Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

⁸ Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings*.

⁹ York, D., (1999). “A Discussion and Critique of Market Transformation”, Energy Center of Wisconsin. Available at <http://www.ecw.org/ecwresults/186-1.pdf>.

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The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation¹⁰. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory¹¹, with the state of a market usually characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades¹². Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects¹³. The ability to make causal connections between these market transformation effects and any particular program's activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and foremost, they need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)"¹⁴ The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts¹⁵, but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

¹⁰ Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). "Market Transformation: Substantial Progress from a Decade of Work." American Council for an Energy-Efficient Economy, Report Number A036. Available at: <http://www.aceee.org/pubs/a036full.pdf>

¹¹ Rogers (1995) Diffusion of Innovations, 5th Ed.

¹² Example in bottom chart of this graphic from NYTimes:

<http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html>

¹³ Sebold et al (2001) p. 6-5.

¹⁴ Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

¹⁵ CPUC (2008) Strategic Plan, p. 5.

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Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions¹⁶. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the utilities look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers¹⁷ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

The metrics and baselines described below in Tables 3 and 4 are presented for the purposes of starting the much-needed discussion between all key participants. These are suggestions, intended to allow key participants to pilot-test processes for establishing baseline metrics, tracking market transformation progress, and for refining evaluation tools. Early trial of these evaluation metrics will reveal any gaps in data tracking so that we may refine our processes before full-scale market transformation evaluations take place.

The set of metrics we selected is intentionally a small set, for several reasons. First, as mentioned, the full set of metrics and baselines need to be selected by key participants. Second, we anticipate that market share data for many mid- and low-impact measures will be too sparse to show MT effects and not cost-effective to analyze. Third, we selected core measures and metrics that would both be indicative of overall portfolio efforts. These measures are also likely to be offered on a broad level by other utilities, providing a greater base of sales and customer data that could be analyzed for far-reaching MT effects.

Therefore, for the Institutional Partnerships, the utilities recommend development of a baseline, and tracking the number of cities, counties and government institutions that have plans for written energy efficiency provisions. Such a metric relates directly to the Strategic Plan (Goal 12.3.4) in terms of measuring progress towards 50% plans for sustainability.

With this discussion in mind, IOUs propose the following metrics for this sector:

Table 3

	Baseline Metric
	Metric A

¹⁶ Nadel, Thorne, Saches, Prindle & Elliot (2003).

¹⁷ Peloza & York, (1999).

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Energy Efficiency Action Plans	Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.
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2) Market Transformation Information

As stated above, market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

As a consequence, it is not appropriate to offer more than broad and general projections. Any targets provided in the following table are nothing more than best guesstimates, and are subject to the effects of many factors and market forces outside the control of program implementers.

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Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time

- 1) *Program Design to Overcome Barriers: Describe priority barriers that the program will overcome and how program is designed -- through marketing, delivery mechanisms, incentive levels, or other means -- to overcome these barriers.*

The existing partnerships have worked diligently to overcome barriers, though many still exist. The effort to resolve barriers is on-going, and significant progress has been made in each of the various partner customers. At the heart of the evolving success are the partnership teams made up of customer staff, utility staff, and consulting professionals. These teams enable the partnerships to overcome these barriers through a number of important and innovative mechanisms. The chart below outlines overarching barriers applicable to all partnerships. Specific barriers will be discussed in each sub-program PIPs below.

Primary Barriers	Strategies to Overcome Barriers
<p><u>Funding:</u> Project Funding Constraints. Energy efficiency is costly and budgets are limited. The decision-makers approving the details of a project often choose not to implement the high-costing more-efficient systems, equipment, or technologies.</p> <p>The Energy \$Mart Loan Program: This State program has taken a hit with the current economy and currently only carries one preferred lender.</p> <p>The IOUs On-Bill Financing: Not all utility OBF programs are ready for implementation.</p> <p>Internal Policy for Incentives: Incentive dollars are most often allocated to the general fund which makes for an inability to ensure incentives</p>	<p><u>Incentives</u> help relieve budgetary constraints and assist the economic evaluations of the customers by making energy efficiency more cost-effective. In addition to their purely economic role, the incentives play an important part in promoting the importance and visibility of energy efficiency.</p> <p><u>The Energy \$Mart Loan program</u> has been created to finance energy projects through the Department of General Services. CEC loans may be able to fulfill the gap in funding.</p> <p><u>The IOUs On-Bill Financing Programs</u> are either being implemented or developed as a way of financing smaller retrofit and modernization upgrades</p> <p><u>Internal Policy for Incentives</u> Assist customer with identifying ways of authorizing funding departments to recapture dollars received from incentives to</p>

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Primary Barriers	Strategies to Overcome Barriers
are allocated toward the participating department budget.	reinvest in future energy projects.
<u>Knowledge Barrier.</u> Economic decisions are often short-sighted, with capital limitations taking precedence over long-term savings, even when accurate economic analysis would select the higher initial cost of higher-efficiency choices.	<u>Education and training</u> brings energy efficiency awareness to decision-makers at all levels. Many of the partnerships have specific plans to incorporate education and training for a variety of people including elected officials, key department managers, facilities staff, personnel from other local governments (such as cities and school districts within the counties), and, in the case of the college partnerships, training within the general population.
<u>Technology</u> itself is rapidly developing, and even the best-informed energy professionals have difficulty distinguishing between sales propaganda and truly valid technical advancements.	<u>Integration</u> allows the partnership management team to be the single source of contact that enables the institutional customers to take advantage of all energy programs offered by the IOUs. This integration will break down many customer barriers to participation in multiple programs. Integration is innovatively being collaborated with internal utility departments in order to fulfill this strategy. Future strategic plans are being developed to include new construction, emerging technologies, education and training, demand response, California Solar Initiative (CSI), self-generation, on-bill financing, and other utility programs within the scope of partnership activities.
<u>Staffing.</u> Staff time is at a premium, with most facility personnel. Attention to proper energy efficiency is time consuming and may get shelved as staff members work on more immediate problems.	<u>Professional assistance</u> from utility staff and partnership consultants allows potential projects to be identified and evaluated. Many institutional and government customers do not have the time to methodically evaluate their buildings and identify the most salient energy efficiency projects. Furthermore, facility personnel often lack the technical expertise to evaluate those projects and determine the best energy efficiency improvements. The partnership team is able to prepare comprehensive lists of projects, evaluate their energy savings potential, and bring them to the team for review. The customer can then use this information to accelerate the timing of some projects, modify the scope of others, and rely on strategic energy planning, rather than simple maintenance schedules, for energy efficiency enhancements.
<u>Information Dissemination:</u> Some of the agencies lack the technical expertise to develop or manage projects.	The management team is currently developing an information tool for some agencies that will help reveal the savings potential of implementing energy efficiency measures in like size facilities. This is meant to appeal to the facilities managers or decision makers and allow the IOU to perform detailed energy audits that eventually lends itself to a project proposal.

We anticipate that each of the partnerships will continue to work through the various obstacles that inhibit the full implementation of energy efficiency within their customer institutions. This is a gradual and evolving process, and some of the partnerships have more significant barriers than others. Nonetheless, the partnership model is effective for all of them and leads to considerable energy savings and demand reduction, both in new construction and in existing buildings. For many of the institutional customers, budget requirements are becoming even tighter. The continuation of the partnerships will help assure that barriers do not become even more significant as budgets are reduced. Institutional Partnerships are designed to overcome barriers to participation and are designed to eliminate these barriers through:

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Customer Contributions

Often the strengths of the customer organizations are leveraged in order to provide various in-kind contributions that benefit the entire program. These contributions include but are not limited to project management, facility personnel, marketing, site location venues and administrative time.

The customer-partners provide major support to the partnerships and the energy-efficiency projects sponsored by the partnerships. The equipment and installation of the retrofit, new construction, and RCx/MBCx projects is paid for by the customers. The projects are managed by them or by a project manager paid for by customer funds.

Key personnel from the institutional partners also attend the routine partnership team meetings and provide additional work directing overall partnership activities and managing various energy efficiency projects. In some cases these are full-time positions paid for by the customer. Customer managers and various facilities and technical staff also provide assistance on an as-needed basis to the utility staff and/or partnership consultants for their various duties. This assistance includes such things as researching and locating building plans and providing access for and assisting with site surveys and monitoring activities.

New Partnership Program Startups

As the awareness and success of the institutional partnerships grow, more government agencies may wish to form partnerships. We propose reserving an extra budget for these partnerships should they materialize during the course of the three-year program cycle.

In order to create a new partnership, the government agency would develop an abstract similar to those used in the initial program planning for this program cycle. This would be submitted to the partnership program manager, either directly or through the customer's account executive. The program managers would then review the abstract and ascertain its viability and cost-effectiveness, as well as the availability of remaining funds. If the proposed partnership appears viable and there are sufficient funds remaining, the program manager will work with the potential partner to develop a program implementation plan.

Should additional partnerships not be created, the reserve funds could be used for additional projects within the existing partnerships based upon the utilities determination of need and optimal cost-effectiveness.

Single Point of Contact

The partner customer would like a single point contact for energy programs that can help them make the most logical, effective energy decisions, and not have to sort out competing IOU offerings. The partnerships have taken a proactive approach to the integration of program communication. One strategy is to assemble a package of offerings that covers all the energy bases and is not just confined to the direct offerings from the partnership. These offering packages are presented one-on-one by the partnership team to various other personnel within the institution. The partnership teams are committed to using the most appropriate programs and will make sure that the right people for each IOU program are brought in at the right time for their implementation.

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- 2) *Quantitative Program Targets: Provide estimated quantitative information on number of projects, companies, non-incentive customer services and/or incentives that program aims to deliver and/or complete in 2009-11 timeframe. Provide references where available.*

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Institutional and Government Facilities			
EE/DR Audits	Ensure 100% of all audits are coordinated EE/DR efforts if applicable	Ensure 100% of all audits are coordinated EE/DR efforts if applicable	Ensure 100% of all audits are coordinated EE/DR efforts if applicable
Lighting and HVAC Retrofits	Identify potential for Retrofits	Identify potential for Retrofits	Identify potential for Retrofits
RCx and MBCx	Benchmark facilities to determine potential	Benchmark facilities to determine potential	Benchmark facilities to determine potential.
New Construction	Communicate Integration Strategy between internal departments and offerings and incentive structure.	Develop project agreement plan to ensure penetration of all existing and future potential projects.	Complete projects establish future pipeline.
Strategic Plan Support			
See Tables in Section 5e			
Core Program Integration			
Education and Outreach	TBD # of Partner Presentations	TBD # of Partner Presentations	TBD # of Partner Presentations
Financial Solutions Program: On-Bill Financing Element	Development documentation package and project agreement for partners.	Determine which partners will use OBF, establish a model for how OBF can be used with Institutional and Government customers.	Complete documentation of participation rates for partnerships and determine any lessons learned or roadblocks.
CSI	Establish communication plan for ensuring partners have been educated regarding solar potential	Develop project agreement plan and determine necessary stakeholders.	Complete documentation of participation potential and what is necessary for partners to participate

Table 5:[e.g. Target #1: 20,000 refrigerators recycled by 2011; or Partnerships with 5 of the 10 top homebuilders by 2010]

- 3) *Advancing Strategic Plan goals and objectives: Describe how program aggressively advances the goals, strategies and objectives of the California Long Term Energy Efficiency Strategic Plan. Reference and describe how program advances specific 2009-11 near term action steps toward Strategies outlined in plan.*

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The California Long-Term Energy Efficiency Strategic Plan (Strategic Plan) sets forth a statewide roadmap to maximized achievement of cost-effective energy efficiency in California's electricity and natural gas sectors between 2009 and 2020, and beyond. **Appendix R:** summarizes how the Institutional Objectives and Strategies during the 2009-2011 program cycle contribute to the fulfillment of the Strategic Plan near-term action and steps toward the plan's longer term goals.

See Appendix R for Institutional Alignment with California Long Term Energy Efficiency Strategic Plan.

2) Program Implementation¹⁸

a. Statewide IOU Coordination: Describe statewide IOU coordination efforts that will guide program implementation. Describe how the following will be coordinated and unified when available:

i) Program name

Statewide Institutional Energy Efficiency Partnerships – (CDCR, State of CA, UC/CSU, CCC); Local Government Partnerships – University of San Diego, San Diego County Water Authority

ii) Program delivery mechanisms

The partnerships will build upon the implementation strategies used in the 06-08 cycle. Mechanisms include:

- CORE / Target Market coordination
- Third Party Coordination
- Direct Install coordination with new and existing implementers
- Non-Residential Retrofit (NRR)
- Coordination with Non-residential New Construction (NRNC)

The implementation plan for this cycle will be refined to account for progress already made and will include:

- A more streamlined program management structure.
- Coordination with other energy efficiency programs and ongoing statewide and local government partnerships.
- Energy efficiency retrofits program element implementation (including project selection and implementation).

¹⁸ To be provided for each program and sub-program in PIP.

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- Monitoring-based commissioning (MBCx) and MBCx Express implementation.
- Energy efficiency education and best practices development and training implementation.
- Integration with portfolio of products & services (e.g. California Solar Initiative, Savings By Design, new construction and demand response activities) into a partnership that enables easier customer access and streamlined IOU management of programs

Third Party Program Coordination

Partnerships will ensure that third party programs are coordinated throughout partnership portfolios. Partnerships will present all delivery channels to customers to meet their unique needs. Due to funding constraints; third party program may be a more cost effective alternative to achieving energy savings. Management teams will coordinate internally to deliver third party programs as a combined front to the partner, eliminating multiple personnel and points of contact.

iii) Incentive levels

See sub-program PIPs for specific incentive levels.

iv) Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

The Institutional Partnership structure builds on previously successful marketing and communication networks between the partner and its various agencies. This “buy-in” from the top opens up communications channels to the whole system. Combined with the existing management structure from the 2006-08 programs, this will facilitate marketing activities through pre-established channels for 2009-11. Due to support from the top of the organization, partnership programs will be very visible and provide opportunities to leverage existing conferences and meetings to raise awareness among internal departments for the program.

Peer-to-Peer Support

Peer-to-peer support is considered a key part of the partnership strategy. Forums will be created for partners to share best practices and offer support for each other. Institutional partners utilize conferences and partnership workshops to present lessons learned and share success stories to expand outreach and encourage other segment customers to implement these various strategies for aligning with the CEESP.

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See Sub-PIP tables Section 6, iv for Key Outreach Activities

- v) *IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable*

IOUs are continuously monitoring their respective local government partners to leverage off best practices and new/innovative programs. IOU's are also researching opportunities with the CEC to help provide alternative funding sources such as CEC loans for CDCR medical facilities. In regards to the ARB there is constant observation on air pollution policies to help partners meet the mandate of AB 32.

- vi) *Similar IOU and POU programs*

The four IOUs strive to have consistency in their respective program offering where practical to make the transactional experience for the state agencies seamless and transparent. Where the IOUs differ in their implementation strategies, the state agencies are educated and guided by the management team to ensure complete process follow through. If POU's have interest in implementing EE programs, the partnership may provide technical assistance in designing these programs if requested.

- b) *Program delivery and coordination: Addressing all applicable items on the list below, describe how the program will be delivered or implemented in concert with them, including, if applicable, coordination with other Agency programs or actions. Describe timeline by which market segment/ sub-segment is expected to be "transformed". Where they exist, highlight any shared or leveraged budget categories and amounts (admin, incentives, ME&O, and other applicable categories).*

- i) *Emerging Technologies program:*

Emerging Technologies Element

Institutions provide venues for the piloting of new technologies and may test technologies that could potentially be implemented across the state. The Codes and Standards Program considers partnerships a high priority in the selection of test sites and also links with CEC's PIER program.

The importance of energy efficiency within the state and the world is encouraging rapid development of new technologies and improved energy efficiency. However, it is virtually impossible for either key decision-makers or their technical staff to keep up with the rapidly evolving market. Even when they learn about the new technologies, it is very difficult to ascertain the true energy efficiency value of the new technologies and to distinguish scientific research from sales hyperbole.

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The utilities, their research organizations, and their connection with the various state research organizations are vital links to the partners. New technology will be a useful component of the education and training element of the partnerships. The partnerships will be able to provide information to the managerial and technical personnel of the institutional customers to help them determine which technologies are worthy of consideration in energy efficiency.

Furthermore, some of the customers are very interested in serving as beta test sites for new technologies. Partnerships may well become key avenues by which new products or technologies can be installed, tested, and evaluated. The partnerships and their institutions will be able to work hand-in-hand with the utility and/or Energy Commission researchers in this arena.

Many of the Higher Education partnerships also include in house development and research of new emerging technologies lending to the ever increasing request for institutional partners to pilot new technologies.

ii) Codes and Standards program

Reach Code Support

The Reach Code Support sub-element will be implemented primarily through the Codes and Standards program PIPs. IP's that choose to include Reach Code Support in their program will be encouraged to optimize compliance of existing codes before developing new reach codes. Some individual Partnerships may choose to include Reach Code activities to promote codes that exceed Title 24 requirements. Again, all reach code support activity will be coordinated with the Codes and Standards program to ensure government input and support for Codes and Standards development of model reach codes that align with Title 24 and achieve measurable energy savings. Partnerships that include Reach Code activities could perform activities that range from training staff regarding adoption and implementation of model reach codes to establishing expedited permitting processes, fee structures and other incentives for green buildings and other above-code developments. IP's may attend training and/or market the training to relevant trades, in coordination with utility and statewide marketing activities.

Code Compliance Support

The Code Compliance sub-element will be implemented primarily through the Codes and Standards program, as described in the Codes and Standards PIP. Some individual Institutional Partners (IPs) will take action related to code compliance by engaging in a range of activities that will be coordinated with the Codes and Standards program.

IP's who participate in the Codes and Standards program may take advantage of the Title 24 and measure-specific training. They may also be able to participate in pilots designed to evaluate and improve the process used by governments to conduct code compliance.

Because optimization of existing compliance is the most effective approach to code compliance, IP's will be encouraged to start with this goal before tackling additional LEED certification requirements. IP Code Compliance activities may include referral to PG&E's

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Codes and Standards program for training staff that are charged with code compliance. IP activity may also include referral to PG&E's Codes and Standards program to access certification programs for inspectors and contractors. IP's may assist with marketing in coordination with PG&E and statewide marketing activities, including advertising training opportunities to relevant trades, raising awareness of current codes among business and residential customers and encouraging compliance by accessing a suite of resources described in the Codes and Standards PIP.

Please refer to the Codes and Standards PIP for further information.

iii) WE&T efforts

Referenced above in Master PIP Section 4, 3a.

iv) Program-specific marketing and outreach efforts (provide budget)

Outreach, Education and Training Element

The various partnerships will seek opportunities to increase awareness and understanding of energy efficiency as appropriate. In all cases this involves reaching upper management and/or elected officials to gain the support of decision makers for energy efficiency projects. It also involves reaching out to other departments within the customer organizations so that mid-level management of these departments will be responsive to and supportive of energy efficiency within the buildings in their jurisdictions. Likewise, it is important to train the day-to-day operating staff within the various facilities management organizations so that the designers, planners, and technicians are aware both of the importance of energy efficiency and the means by which it can be achieved. For institutional partnerships, education and training will be extended to elected officials, managers, and operations staff. Partnerships with educational institutions, it will involve educating faculty on energy efficiency so that they in turn may pass on the knowledge to their students.

The partnerships' education and training will also leverage existing utility training programs provided through the various training centers such as Pacific Gas and Electric Company's Energy Training Center. In some cases, multiple partnerships may work together to provide education and training that is available to all of their constituents and thereby increase the availability and flexibility of the training programs. Specialized training sessions may be held at venues within the customer's facilities in order to minimize hardship on customer personnel and maximize attendance.

The education and training component also includes partnerships' outreach. Outreach is typically internal to the customer's organization, as the large and complex institutions that make up the partners have thousands of employees and many different departments. In many cases communication between the various departments of the organization is not well organized and information flow is slow or non-existent. The partnership will assist in the outreach to these ancillary departments in order to increase the awareness and understanding of energy efficiency. Partnerships will also reach out to similar but independent government

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agencies within their geographic regions; in particular, the county partnerships will reach out to cities, school districts, and other local agencies in order to bring them aboard. Partnerships will utilize existing infrastructures to accomplish outreach activities and others will rely more heavily on assistance from the utility partner and/or partnership consultants.

The education and training activities will include workshops for facility managers. They will receive training on best practices for implementation of energy efficiency retrofit projects, building operations, and new technologies that may be applicable to the effective completion of their daily tasks. Participants will have an opportunity to explore the utility programs currently available. In addition, the partnerships will provide opportunities for participants to share best practices with other facility managers.

Workshops will be coordinated and delivered in conjunction with other partnership efforts. In addition, the partnership team will coordinate with existing training centers such as SCE's Customer Technology Application Center (CTAC) and Agricultural Technology Application Center (AgTAC), SoCalGas's Energy Resource Center, and PG&E's Pacific Energy Center to deliver various technical training courses to improve the skills and knowledge of facility staff.

The training of multiple groups and types of personnel within the institutional partners will help ensure partnership coordination of the project implementation process and coordination and cooperation of all key players from all departments within the organization.

The primary objectives of the education and training programs are to produce cost-effective energy savings. This will help the partners to comply with the requirement of Executive Order S-20-04 and their goals to reduce energy consumption. This will be achieved by:

- Increasing transfer of energy efficiency knowledge and implementation experience.
- Increasing awareness and knowledge of the benefits of energy efficiency initiatives.
- Integrating efforts between partnership activities and utility programs offerings.
- Reducing the number of projects that are implemented without attention to energy efficiency.
- Increasing the number of institutional departments and/or local government agencies that use energy efficiency as a key decision-making parameter.
- Increasing communication between and building camaraderie among various key personnel in the facilities management groups of many departments, agencies, and organizations.

Sub-program specific activities are referenced in each sub-program PIP Section 6, iv.

v) Rationale for selection of sub-contractors;

Subcontractor Activities

Subcontractors may be used to assist in program administration and management, and will provide professional and technical support for the implementation of each of the program elements. A program consultant will assist in day-to-day coordination and communication among the Institutional Partners as follows:

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- Provide staffing to the Management Team and program specific subcommittees and implementation teams
- Coordinate, schedule, and document results and action items from program team meetings
- Prepare and conduct formal presentations and participate in conferences as required by the Management Team
- Develop and maintain a Project Tracking and Reporting database system.
- Assist the IOUs and Partners in CPUC reporting and regulatory communications.
- Assist in the development of workshop agendas and materials, identification of experts, facilitation of workshops and training sessions, and preparation of minutes for the Training and Education component
- Miscellaneous professional and technical assistance as requested by the IOUs

Program Management Structure

Partnerships will continue to be administered by management teams consisting of representatives from IOUs and partnership management. A program administrator and management subcontractor for the CDCR, CCC, and UC/CSU partnerships will track project progress and keep the lines of communication and information consistent. The management structure of the partnership has allowed for a more streamlined approach and flexibility in overall program administration.

The management team will set overall program policy and ensure that the program stays on plan throughout its life cycle, and will meet roughly every three weeks. Subcommittees or “teams” made up of members of the management team and other representatives will perform the detailed work associated with the program elements, and make recommendations to the management team for action. This will potentially include a retrofit team, MBCx Express Team, and a training and education team. The team will be providing a more coordinated and integrated approach and will increase the penetration of energy efficiency and avoid lost opportunities.

Key Activities of Management Teams include:

Key Activity	Description
Identify key stakeholders to participate	The partnership management team identifies key stakeholders in each agency. They may be selected to participate in the project team.
Conduct solicitation for potential projects from participating agencies	The retrofit project team coordinates with the customer to generate a pool of projects to be evaluated.
Compile and evaluate projects based on project criteria and cost effectiveness requirements.	The retrofit project team performs due diligence on proposed projects to determine if each project meets the criteria and cost-effectiveness requirements. The project team provides a list of recommended projects.

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Key Activity	Description
Approve projects for funding	The partnership management team reviews project team recommendations for potential projects.
Identify funding sources	The partnership team and participating state agency explore financing alternatives such as rebates and incentives, on-bill financing, application of existing budget, and Energy \$Mart financing to maximize the state's investment in energy efficiency.
Coordinate project implementation with partners and contractors.	The project team provides oversight of project implementation and coordinates with customer and contractors to ensure successful and timely implementation.
Verify project installation and provide incentive payments.	The project team conducts 100% inspection. Upon verification, project team approves the completed projects for incentive payments.
Compile project results and complete final report.	The project team compiles all relevant project information including measure information; energy savings; program incentives paid; etc.
Coordinate with EM&V contractor where applicable.	If required, management team coordinates with the project teams and key stakeholders to support any requests from the CPUC approved EM&V contractors.

Partnerships can also hire energy efficiency retrofit subcontractors to install the energy efficiency measures for the retrofit component, and commissioning agents to assist in the performance of MBCx projects. Partnerships may also hire engineering subcontractors to assist with project development, as needed.

vi) Non-energy activities of program

If applicable specific non-energy activities will be listed in sub-program PIPs Section 6, vi.

Guiding Document Support

Guiding document support will be provided by IOUs and will influence the partnerships through collaborative efforts that bring about the adoption of higher standards for energy efficiency. In addition, a tool will be developed for decision makers. This will enable customers to utilize this tool for guiding future decision making process and energy policy development that will align with the CLTEESP.

Technical Assistance

The Partnership will focus on technical assistance and help the Partner to identify projects for potential implementation. The Partnership team will prepare comprehensive lists of projects,

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evaluate their energy savings potential, and bring them to the team for review. The Partners can then use this information to accelerate the timing of some projects, modify the scope of others, and rely on strategic energy planning, rather than simple maintenance schedules, for energy efficiency enhancements. Some technical assistance may include:

1. Training and Education
2. Energy Audits
3. Design assistance
4. Due diligence/Project Review

vii) *Non-IOU Programs*

If applicable will be detailed in sub-program PIPs, Section 6, vii.

viii) *CEC work on PIER*

Applicable PIER program coordination will be detailed in sub-program PIPs, Section 6 viii.

ix) *CEC work on codes and standards*

If applicable will be detailed in sub-program PIPs, Section 6 ix.

x) *Non-utility market initiatives*

If applicable will be detailed in sub-program PIPs Section 6, x.

c) *Best Practices: Describe why program approach constitutes “best practice” or reflects “lessons learned” in market strategies, program design and/or implementation techniques. Provide references where available.*

Institutional Partnerships have provided documentation that is valuable and provides lessons learned for a variety of institutional customers. Overarching best practices for institutional partnerships are noted below:

Type of Best Practice	Best Practice	Institutional Application(s)
Goals & Objectives	Develop and use clearly articulated objectives that are internally consistent, actionable and measurable.	Share clearly defined and obtainable goals that are developed with partner input. Track goals through bi-weekly management team meetings to ensure they are achieved.
	Develop tools to track the portfolio's performance on a continuous basis and report progress.	The Program Workbook is a living document that will facilitate continuous tracking and reporting.
Planning	Design programs within the portfolio based on sound program plans; where appropriate, utilize clearly but concisely articulated program theories.	The plan & program structure are based on sound program plans & theories.
	Conduct baseline research	Baseline research was conducted of each Partnership and the individual participating cities & counties.
	Build feedback loops into program design and logic	The Program Workbook provides a mechanism for closely monitoring progress and making adjustments as may be needed to

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Type of Best Practice	Best Practice	Institutional Application(s)
	Maintain the flexibility to rebalance portfolio initiatives, as needed, to achieve the portfolio's goals and objectives.	meet the Partnership goals and objectives.
Staffing	Select highly qualified in-house staff &/or outside contractors to manage, design, implement and evaluate programs.	SCE Project Managers have been assigned to each Partnership to assure continuous open communications and implementation success. The roles and responsibilities of SCE and the various Partners and participants are clearly defined in the Program Workbook. Resources will be supplemented with pre-qualified technical support contractors selected by SCE through competitive solicitations to cost-effectively provide the portfolio of technical assistance needed to support its Partners.
	Clearly define portfolio implementation responsibilities and clarify roles to minimize confusion.	
Integration	Leverage relationships from complementary organizations such as utilities, trade allies, and industry specialists.	Structured to leverage all resources, assets and relationships of SCE, its Partners, and their participants, constituents, stakeholders, and other related individuals & organizations.
Reporting & Tracking	Clearly articulate the data requirements for measuring portfolio and program success.	The Program Workbook, coupled with frequent meetings between/among SCE, its Partners and their members/ constituents is designed to track and report Partnership progress and successes.
	Design tracking systems to support the requirements of all major users: program administrators, managers, contractors and evaluators.	

Specific best practices are referenced for each specific partnership in Sub-Program PIP I, II, III, IV, Section 6, b.

d) *Innovation: Describe any unique or innovative aspects of program not previously discussed. Why is this innovative?*

Innovative aspects of programs will be detailed in sub-program PIPs, Section 6, d, if applicable.

e) *Integrated/coordinated Demand Side Management: Describe in detail how program will achieve integrated or coordinated delivery of all DSM options (energy efficiency, demand response, and onsite generation) where applicable including integrated program design and delivery, shared budgets, program evaluation, and incentive mechanisms that promote greater integration of DSM resources. Provide a complete description for all the technologies, including integration supporting technologies that will be included in the program. If the program does not include all DSM options as noted above, briefly provide an explanation for a more limited subset of DSM technologies. Utilize Attachment 5A to highlight any shared or leveraged budget categories and amounts (admin, incentives, ME&O, and other applicable categories).*

SDG&E supports the loading order in which our partners can achieve the highest level of integrated energy efficiency savings. Some of our partnerships have completed the Analysis (1) and Energy Conservation (2) efforts prior to becoming fully engaged into Partnership programs.

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Once engaged into partnership programs, customers and partnerships focus on the Energy Efficiency aspect of integrated programs before moving onto Self Generation (5) or Demand Side Management (6). Moving partnerships into Self Generation or Demand Side Management at a premature time may act to mitigate energy savings and not realize energy savings.

Most partnerships remain focused on the Energy Efficiency aspect of integrated energy efficiency programs to maximize energy efficient efforts. The partnerships continue to focus on the ever demanding requests of Self Generation and Demand Side Management. Many institutional partners are under significant pressure from government mandates to implement Self Generation and Demand Side Management technologies. Partnerships have included Self Generation and Demand Side Management into implementation plans to meet these demands but also focus on the importance of appropriate energy efficiency management.

Integration of programs such as Self Generation and Demand Side Management require partnerships to develop innovative ways to share allocated budgets and developed goals. When plausible and cost-effective, partnerships will leverage off existing program delivery channels and budgets to provide Self Generation and Demand Side Management.

- f) Integration across resource types (energy, water, air quality, etc): If program aims to integrate across resources types, please provide rationale and general approach.*

If applicable this item will be detailed in the sub-program PIPs, Section 6, f.

- g) Pilots: Please describe any pilot projects that are part of this program*

If applicable this item will be detailed in the sub-program PIPs, Section 6 g.

- h) EM&V: Describe any process evaluation or other evaluation efforts that will be undertaken by the utility to determine if the program is meeting its goals and objectives. Include the evaluation timeframe and brief description of scope, as well as a summary of specific methodologies, if already developed. If not developed, indicate the process for developing them. Please include, as well, whether there are program-tracking databases that will be needed for evaluation purposes.*

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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7). *Diagram of Program: Please provide a one page diagram of the program including sub-programs. This should visually illustrate the program/sub-program linkages to areas such as:*

- a. *Statewide and individual IOU marketing and outreach*
- b. *WE&T programs*
- c. *Emerging Technologies and Codes and Standards*
- d. *Coordinated approaches across IOUs*
- e. *Integrated efforts across DSM programs*

See Appendix

8). *Program Logic Model: Provide a program logic model including sub-programs. May be included in an appendix to the PIP.*

See Appendix

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I. Sub-Program Implementation Plan – CCC/IOU Partnership Program

1) Program Name

California Community College/Investor Owned Utility (CCC/IOU) Partnership Program

2) Projected Program Budget Table

Table 3¹⁹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	Core Program #1					
	Sub-Program #1					
	Sub-Program #2					
	Etc.					
	TOTAL:					

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 4

Program #	Program Name / Sub-Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	Core Program #1			
	Sub-Program #1			
	Sub-Program #2			
	Etc.			
	TOTAL:			

¹⁹ Definition of Table 1 Column Headings: **Total Budget** is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

a) Describe Program

The CCC/IOU Energy Efficiency Partnership has been a successful collaboration between the California Community Colleges (CCC) and the four Investor-Owned Utilities (IOUs). The CCC is a two-year public institution of higher education that is composed of 110 colleges statewide and organized into 72 self-governing Districts. It serves more than 2.6 million students coming from a wide range of cultural and economic backgrounds, and represents the largest system of higher education in the world. San Diego Gas & Electric (SDG&E) alongside the other IOUs (PG&E, SCG and SCE), will continue this collaboration, which started with the 2006-08 CCC/IOU Energy Efficiency Partnership, to share best practices and implement energy efficiency programs and projects for immediate and long-term energy savings and peak demand reduction.

This partnership provides a unique opportunity to deliver cost effective energy savings while leveraging the CCC's local and statewide new construction bond funding. The 2009-11 CCC/IOU Partnership will expand its efforts for the implementation of energy-efficient Retrofits, New Construction Design Assistance facilitated by the Savings By Design program, Demand Response, Retro-Commissioning (RCx), and Monitoring-Based Commissioning (MBCx) projects. The program will also focus its efforts on training and education, which will expand existing education programs by training faculty and staff in best practices on energy efficient technology implementation and energy management.

Projects will adopt a comprehensive approach by including retrofits and their DSM alternatives to include: demand-response, DG (renewable self-generation), solar hot water and water efficiency.

The 2009 - 11 CCC/IOU Partnership will expand its efforts in the delivery of energy efficiency and provide the following program elements:

- Energy-efficient retrofits of equipment and systems
- New construction design assistance. This will be a focus of the partnership due to the significant bond-funded construction of new and renovated facilities that are occurring at the CCC's at an unprecedented rate.
- Retro-commissioning/monitoring-based commissioning (RCx/MBCx) projects.
- Provide a "portal" to other IOU energy programs for a coordinated, integrated DSM program
- Training & education program, which will provide training to facility maintenance and operations staff in best practices on energy efficient technology implementation and energy management.
- Explore opportunities to partner with existing curriculum development efforts to train the next generation of the "green workforce", which has been identified as a critical component for California's future economy.

b) List Measures.

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Measure Categories	Technologies
Lighting	Includes indoor and outdoor fluorescent, HID, LED replacements, lighting controls, and other lighting projects.
Controls and other Equipment	Includes fans, motors, VFDs, air compressors, EMS systems and other equipment not covered under the lighting or HVAC categories.
HVAC, Air Conditioning and Refrigeration	Includes system and major subsystem replacements
Other	New Construction, RCx, MBCx and others

Incentives

Incentives will be paid on projects based on a cents per kWh saved. These rates are an average of \$.24/kwh saved. Incentives are paid by the utility to the agency upon completion of the project. They are based upon the agreed-upon energy savings determined as part of the project evaluation, subject to changes made during the project’s implementation. All gas savings will be at \$1.00 per therm.

Incentive rates for the New Partnership will be as follows:

- Lighting- \$0.24/kWh
- Controls and other Equipment- \$0.24/kWh
- HVAC, Air Conditioning and Refrigeration- \$0.24/kWh
- All gas savings will be at \$1.00/Therm
- Savings by Design/ Commercial New Construction Projects- \$0.10/ kWh above core SBD incentive rate

c) List non-incentive customer services

The California Community College/ Investor Owned Utility Partnership will include non-energy activities such as creating presentations for industry and association conferences, attending various conferences, meetings, and outreach events, and distributing marketing materials through said conferences as well as training sessions.

A training and education component for campus design staff, project managers, energy managers and others will also be provided in using best energy practices in the construction, retrofit, and monitoring based commissioning of campus buildings and central plant infrastructures.

Subcontractor Activities

Subcontractors will be used to assist in program administration and management, and will provide professional and technical support for the implementation of each of the program elements. A program consultant will assist in day-to-day coordination and communication among the partners (the colleges, System office, and four utilities) as follows:

- Provide staffing to the management team and program specific subcommittees and implementation teams
- Assist in program planning and design areas such as:
 - Program narrative preparation for filings

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- Organization of financial budgets
- Preparation of program energy savings estimates and E3 cost-effectiveness calculators
- Providing assistance in the development of marketing and outreach plans
- Coordinate, schedule, and document results and action items from program team meetings
- Provide technical engineering assistance to develop projects and ensure that project documentation complies with CPUC energy efficiency policy and supports EM&V assessments.
- Prepare and conduct formal presentations and participate in conferences as required by the Management Team
- Develop and maintain a project tracking and reporting database system.
- Assist the IOUs and CCCs in CPUC reporting and regulatory communications
- Assist in the development of workshop agendas and materials, identification of experts, facilitation of workshops and training sessions, and preparation of minutes for the training and education component
- Miscellaneous professional and technical assistance as requested by the IOUs

The campuses will hire:

- Energy efficiency subcontractors to install the energy efficiency measures for the retrofit component
- Consultants and contractors to assist in the performance of MBCx projects
- Engineers and architects to assist with the New Construction Design Assistance element. Campuses may also hire engineering consultants to assist with project development as needed.

As seen in the 2006-08 partnership, the campus facilities management staff will play a major role in this program component while enlisting the assistance of subcontractors.

Non Incentive Services	Delivery Mechanism
Education and Training	Delivered through the creation of presentations for industry and association conferences, attending various conferences, meetings and outreach events, and distributing marketing materials through education programs. Training energy managers, facility maintenance staff and design staff, project manager and others in using best practices in the construction, retrofit, retro-commissioning and monitoring based commissioning of buildings and central plant infrastructure.
Emerging Technologies	Delivered through coordination with SDG&E's Emerging Technologies group. The CCC/ IOU Partnership Program will work with the ETP group to develop potential pilots for emerging technologies development.
Funding Sources	Federal grants, state financing, local bonds, and IOU incentives. Further coordination and integration of SDG&E's On-Bill Financing Program to assist in the funding of energy efficiency projects.
Subcontractor Activities	Subcontractors may be used to assist in program administration and state wide coordination among partners.
Program Administration and Management	Utility program managers will: Identify project tasks and establish schedule of deliverables and responsibilities to ensure the deliverance of successful program implementation, obtain inputs from the partners,

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Non Incentive Services	Delivery Mechanism
	facilitate the decision-making on key program elements while coordinating partnership team communications, provide analytical assistance as needed, and submit accurate program information for reporting to the CPUC.
Quality Assurance and Evaluation	The New Energy Efficiency Partnerships team will establish and oversee quality assurance measures for the partnership program, including oversight and verification of subcontractor activities. These procedures and the associated reporting will be developed in more detail as a part of program implementation. In general, the partnership will continue the level of due diligence and quality assurance of the present IOU energy efficiency offerings, including a representative percentage of pre/post installation confirmation inspections for small hardware projects, and pre/post inspections on all large or specialized/hardware projects (installation of energy efficient equipment, facility retrofits, and building commissioning and new construction projects).
Codes and Standards	The other key element will be the refinement and further adoption of voluntary policies and requirements by the customers for energy efficiency and sustainability to create incrementally more efficient buildings in parallel with the adoption of more stringent, mandatory Codes and Standards by local and state jurisdictions.

5) *Program Rationale and Expected Outcome*

a) *Quantitative Baseline and Market Transformation Information:*

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) *Market Transformation Information:*

Table 4

	Market Transformation Planning Estimates		
Program/Element	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) *Program Design to Overcome Barriers:*

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SDG&E and the other IOUs face the challenge of implementing cost effective energy efficiency programs that will result in immediate, long-term peak energy and demand savings in their service territories. The CCC system consumes vast quantities of energy and make up a significant portion of the both the electric and natural gas load in the State of California. However, due to the decentralized and self-governing structure of the CCCs, as well as the lack of funding and resources at these campuses, it has been an extremely challenging process to assist these districts in implementing energy efficient measures and practices.

The existing partnerships have worked diligently to overcome these barriers, though many still exist. The effort to resolve them is on-going, and significant progress has been made. At the heart of the evolving success are the partnership teams made up of customer staff, utility staff, and consulting professionals. These teams enable the partnerships to overcome these barriers through a number of important mechanisms:

Primary Barriers	Strategies to Overcome Barriers
<p>Funding Levels- Project Funding Constraints. Energy efficiency is costly and budgets are limited. The actual decision-makers approving the details of a project often choose not to implement the higher-costing more-efficient systems, equipment, or technologies. Incentive dollars are most often allocated to the general fund which makes for an inability to ensure incentives are allocated toward the participating department budget.</p>	<p><u>Incentives</u> help relieve budgetary constraints and assist the economic evaluations of the customers by making energy efficiency more cost-effective. In addition to their purely economic role, the incentives play an important part in promoting the importance and visibility of energy efficiency. When a partnership can bring an incentive to the decision-making body and make a public announcement, it not only improves the economics, but it demonstrates the importance of the project and increases public awareness of both the utility's and the customer's commitment to energy efficiency and environmental quality.</p> <p><u>The Energy \$Mart Loan program</u> has been created to finance energy projects through the Department of General Services. <u>SDG&E's On-Bill Financing Programs</u> is currently being implemented as a way of financing retrofit and modernization upgrades.</p>
<p>Short-sightedness- Economic decisions are often short-sighted, with capital limitations taking precedence over long-term savings, even when accurate economic analysis would select the higher initial cost of higher-efficiency choices.</p>	<p><u>Education and training</u> brings energy efficiency awareness to decision-makers at all levels. Many of the partnerships have specific plans to incorporate education and training for a variety of people including elected officials, key department managers, facilities staff, personnel from other local governments (such as cities and school districts within the counties), and, in the case of the college partnerships, training within the general population. This component will enhance the awareness of energy efficiency, which in turn will subdue some of the barriers caused by lack of information or erroneous economic analysis.</p>
<p>Technology- itself is rapidly developing, and even the best-informed energy professionals have difficulty distinguishing between sales propaganda and truly valid technical advancements.</p>	<p>Integration allows the partnership management team to be the single source of contact that enables the institutional customers to take advantage of all energy programs offered by the IOUs. This integration will break down many customer barriers to participation in multiple programs. This integration is innovatively being collaborated with internal utility departments in order to fulfill this strategy. Future strategic plans are being developed to include new construction, emerging technologies, education and training, demand response, California Solar Initiative (CSI), self-</p>

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Primary Barriers	Strategies to Overcome Barriers
<p>Staffing- Staff time is at a premium, with most facilities personnel having too much to do in too little time. Attention to proper energy efficiency is time consuming and may get shelved as staff members work on more immediately urgent problems. Community College campuses tend to have inadequate staffing due to the current staff being overextended; additional technical assistance desired.</p>	<p>generation, on-bill financing, and other utility programs within the scope of partnership activities.</p> <p>Professional assistance from utility staff and partnership consultants allows potential projects to be identified and evaluated. Many institutional customers do not have the time to methodically evaluate their buildings and identify the most salient energy efficiency projects. Furthermore, facility personnel often lack the technical expertise to evaluate those projects and determine the best energy efficiency improvements. The partnership team is able to prepare a comprehensive lists of projects, evaluate their energy savings potential, and bring them to the team for review. The customer can then use this information to accelerate the timing of selected projects, modify the scope of others, and rely on strategic energy planning, rather than simple maintenance schedules for energy efficiency enhancements.</p>
<p>Information Dissemination- Some of the agencies lack the technical expertise to develop or manage projects. Therefore they lose out on opportunities to improve efficiency when staff is unaware of available technology and measures. Lack of funding and management support also causes the removal of such measures from a project.</p>	<p>The management team is currently developing an information tool for some agencies that will help reveal the savings potential of implementing projects with likely energy efficiency measures that may appear in agencies' typical facilities. This is meant to appeal to the facilities managers or decision makers and allow the IOU to perform detailed energy audits that eventually lends itself to a project proposal.</p>

We anticipate the partnership will continue to work through the various obstacles that inhibit the full implementation of energy efficiency within their institution. This is a gradual and evolving process. Nonetheless, the partnership model has shown to be extremely effective, and leads to considerable energy savings and demand reduction both in new construction and in existing buildings. For the California Community Colleges, budget requirements are becoming even tighter. The continuation of the partnerships will help assure that these barriers do not become even more significant as budgets are reduced.

d) Quantitative Program Targets: .

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
New Construction	Communicate Integration and incentive structure. TBD x number of projects identified.	Develop project agreement plan to ensure penetration of all existing and future potential projects. TBD x number of projects implemented	Complete a number of projects establish pipeline. TBD x number of project incentives paid and completed.
On-Bill Financing	Development of On-Bill Financing documentation package for partners. Develop project agreement plan and determine whether partners will participate.	TBD x number of applications.	Complete documentation of participation rates for partnerships and determine any lessons learned or roadblocks. TBD x number of paid loans through OBF.

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Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
	TBD x number of projects.		
CSI	Establish communication plan for ensuring partners have been educated regarding solar potential	Develop project agreement plan and determine necessary stakeholders.	Complete documentation of participation potential and what is necessary for partners to participate
RCx and MBCx	TBD Benchmark X # of facilities to determine potential for RCx or MBCx.	TBD Complete project agreement packages for x # of facilities.	TBD Complete implementation and pay incentives on X # of RCx or MBCx projects.
Education and Outreach	TBD # of Partner Presentations	TBD # of Partner Presentations	TBD # of Partner Presentations
EE/DR Audits	Ensure 100% of all audits are coordinated EE/DR efforts if applicable	Ensure 100% of all audits are coordinated EE/DR efforts if applicable	Ensure 100% of all audits are coordinated EE/DR efforts if applicable

e) Advancing Strategic Plan goals and objectives:

Institutional partnerships are a natural fit with the goals, objectives, and strategies articulated in the California Energy Efficiency Strategic Plan. The partnerships have demonstrated that the three *Pillars* of the Strategic Plan -- Innovation, Integration, and Collaboration -- are indeed the key to achieving the next generation of cost-effective energy efficiency and the resulting reduction in greenhouse gas emissions.

The partnership management teams have and will continue to:

- Be very successful in developing a collaborative approach
- Overcome many of the barriers that diverse stakeholder groups encounter
- Successfully navigate these challenges, improve communications, firmly identify roles and responsibilities, and develop a continuity of both people and a management approach that works very well for their own partnerships.
- Firmly align goals: saving energy, improving the environment, and saving money for the institutional customers.
- Embrace Monitoring Based Commissioning (MBCx) and Retro-commissioning (RCx) at their facilities as a result of the 2006-2008
- Some of the partnerships have also worked with the PIER SPEED program, which has resulted in the installation of several pilot projects in 2007.
- Work with the PIER and IOU ET teams to leverage the pilot projects into larger scale emerging technology programs and projects in 2009-2011.
- Work with the IOU Food Service Technology groups in an outreach effort to educate food service, maintenance, and facilities decision makers in the newer energy efficiency technologies emerging in this area. Innovation in the food service technology sector will be an important focus for the partnerships in 2009-2011.

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- Lead the deployment of many information technology energy efficiency measures. Retrofit measures have included server virtualization, PC power management, CRT to LCD monitor replacements, and high-efficiency UPS systems.
- Been innovative in setting policy for energy efficiency and sustainability.
- Ramp up voluntary policies and requirements that fit with the Strategic Plan initiative in the *Codes and Standards* area to adopt voluntary energy efficiency standards as a precursor to progressively more stringent mandatory building codes and standards.

6) Program Implementation

a) Statewide IOU Coordination:

i) Program Name

California Community College/ Investor Owned Utility (CCC/ IOU) Partnership Program

ii) Program Delivery Mechanisms

The 2009-11 CCC/ IOU Energy Efficiency Partnership Program will utilize and build upon the implementation strategies employed in the partnership from the 2006-2008 program cycle. The implementation plan for this cycle will be refined to account for progress already made which will include:

Program Management Structure

The management structure of the partnership will be further streamlined from the 2006-08 cycle to allow for more flexibility in overall program administration, outreach, project identification and development, and project implementation and verification. The program will continue to be administered by a management team, consisting of representatives from the UC Office of the President, the CSU Chancellor's Office, all four IOUs, and a program administration and management consultant who will track project progress and keep the lines of communication and information flowing. The management team will set overall program policy and ensure that the program stays on plan throughout its life cycle. One of the biggest changes from 2006-08 is to streamline implementation to combine the various responsibilities for project evaluation and implementation into a single team which will oversee retrofit, MBCx, new construction, and innovative projects. The team will be providing a more coordinated and *integrated approach* and will increase the penetration of energy efficiency to avoid lost opportunities.

Program Elements

The following program elements will operate on a statewide, *integrated* basis, providing immediate energy savings and setting the foundation for a long-term program that focuses on its sustainability and best practices.

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Energy Efficiency Retrofits

The partnership outreach and/or project team will identify and develop potential retrofit projects using the project portfolio described above as a starting point, with follow up campus audits and performance of savings calculations. In some cases, campuses will utilize ESCOs or other engineering firms under contract to develop projects. Project applications will be submitted, or when necessary, completed by the IOUs. If approved through the IOU due-diligence review process, the applications will be executed by the campus and the IOU, and project implementation will, at that time, commence. The projects will be implemented by the CCC campus staff or their engineering and construction contractors, and the IOUs will perform verification inspection prior to payment of incentives.

The energy efficiency retrofit projects that will be performed for the program will be electric and gas saving measures including: lighting retrofits, building wide lighting controls, boiler replacements, installation of water heaters, HVAC and chiller upgrades, VFDs, and central plant projects, amongst others.

Retro-Commissioning (RCx) / Monitoring-Based Commissioning (MBCx)

This element of the program is a unique approach to obtaining savings that combines the expertise of the state facility management staff, utility and subcontractor expertise. Through these resources, a systematic, comprehensive RCx/MBCx program will be implemented in existing buildings. It will provide a cost effective approach to achieving optimized operating facilities, save both electric and gas energy, reduce operating cost and improve occupancy comfort.

New Construction and New Construction Design Assistance

New Construction is a significant opportunity to achieve a breakthrough in energy savings at the Community Colleges. This program will be managed towards meeting the strategic energy plan goals of zero net energy for commercial buildings by 2030. The goal of the 2009-11 partnership is to fully integrate the new construction design assistance program under the partnership umbrella to capture those opportunities. In addition, the partnership will consider additional incentive dollars to implement those measures that show persistent energy savings and capture the lost opportunities by those projects that have been value-engineered out of the project scope due to budget and time constraints.

Quality Assurance

The CCC/IOU team will establish and oversee quality assurance measures for the partnership program, including oversight and verification of subcontractor activities. These procedures and the associated reporting will be developed in more detail as a part of a program implementation. In general, however, the partnership will continue the level of due diligence and quality assurance of the present IOU energy efficiency offerings. This will include a representative percentage of pre/post installation confirmation inspections for small hardware projects and pre/post inspections on all large or specialized projects hardware projects (installation of energy

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efficient equipment, facility retrofits, and building commissioning and new construction projects).

iii) Incentive Levels

- Lighting projects- \$0.24/ kWh
- Motors/ VFDs/ Compressors/ Controls/ Others- \$0.24/ kWh
- HVAC projects with electric savings- \$0.24/ kWh
- Projects with gas savings- \$1.00/ Therm

iv) Marketing and outreach plan.

A change for the upcoming 2009-2011 program cycle is the refinement of the Outreach Team, which tried several models in 2006-2008, and has evolved into an effective team consisting of customer-focused IOU Account Executives, team leadership from the Community College Chancellor’s Office, and key District staff. Because of the positive relationships that have been formed, the Outreach team has been able to reach the campus and District decision makers more effectively. The IOUs and consultant technical and engineering staff have also been able to quickly and accurately assess project opportunities, complete energy savings calculations, and process project applications with campuses.

The CCC/ IOU Partnership will also continue its activities with creating presentations for industry and association conferences, attending various conferences, meetings, and outreach events, and distributing marketing materials to contractors, architects, and Community College staff members statewide.

Key Activity	Description
Outreach	The partnership management team begins outreach efforts by contacting the heads of facilities management for each department, informing them of the availability of funds for approved measures and activities in state facilities. The team schedules meetings to discuss options, implementation criteria, benefits of program participation, and program offerings.
Customer Follow-Up	The partnership management team, in coordination with staff from the state and the IOUs, visit each targeted site to talk with facilities managers about the various options and proposed energy efficiency measures. After confirming an appropriate site for implementing measures and/or retro-commissioning, the management team meets the appropriate facilities managers to present the anticipated energy savings, other benefits, and considerations associated with the implementation.
Implementation and Training	The partnership management team share energy efficiency knowledge and implementation experience with other public agency entities through a series of meetings and workshops. These meetings and workshops are coordinated with other partnership programs.

v) IOU program interactions

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IOUs are continuously monitoring their respective partners to leverage off best practices and new/innovative programs. IOU's are also researching opportunities with the CEC to help provide alternative funding sources such as CEC loans for CCC facilities. In regards to the ARB there is constant observation on air pollution policies to help CCC meet the mandate of AB 32.

vi) *Similar IOU and POU programs*

b) *Program delivery and coordination.*

i) *Emerging Technologies Program*

ii) *Codes and Standards Program*

iii) *WE&T Efforts*

- Foundation building, including preparing a needs assessment, evaluating cost-benefit analysis tools for investments in WE&T, creating a WE&T web portal, establishing ongoing dialogue with key players, and forming a WE&T task force.
- Focus specific strategies on community colleges and technical training.
- Transform HVAC—including its products, companies, employees and even its customers—to develop, install and maintain highly efficient and peak-friendly systems.

The partners will provide education and training for students and facility personnel through workshops and other training strategies in collaboration with other partnerships. It will be a venue for those individuals responsible for managing energy use on campuses to share information and experiences related to facility operations, to gain knowledge of industry best practices in energy efficiency management, and for successful energy efficiency project implementation, among other issues. The other strategy for the education and training element is the development of an energy efficiency vocational curriculum that will be offered to campus students to equip them with energy efficiency knowledge which they can apply in the industry. Lastly, this partnership will seek opportunities to improve project coordination and communication to strengthen the relationships amongst the Partners.

The primary vehicles for training and dissemination of information will be a series of training sessions and workshops (covering new construction, building operator training, retrofits, retro-commissioning, and monitoring based commissioning) to be held in Northern and Southern California. The partners will collaborate with the IOUs' technology centers to assist with course offerings and curriculum and content development and will utilize the existing material and best-practices documentation developed by other partnership programs during 2004-05 and 2006-08 program cycles.

Major Activities:

Key Activity	Description
Identify key stakeholders to participate	The management team will identify key stakeholders in each agency to participate in the project team.

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Key Activity	Description
Conduct solicitation for potential projects from participating agencies	The retrofit project team will coordinate with customer to generate a pool of projects for evaluation.
Compile and evaluate projects based on project criteria and cost effectiveness requirements.	The retrofit project team will perform due diligence on proposed projects to ensure that each project meets the criteria and cost-effectiveness requirements. Project team will provide a list of recommended projects to proceed with implementation.
Approve projects for funding	The management team will review project team recommendations for potential projects.
Coordinate project implementation with Partners and contractors.	The project team will have oversight of project implementation and will coordinate with customer and contractors to ensure successful and timely implementation of the project.
Verify project installation and provide incentive payments.	The project team will conduct 100% inspection. Upon verification, project team will approve the completed projects for incentive payments.
Compile project results and complete final report.	The project team will compile all relevant project information including measure information, energy savings, program incentives paid, etc.
Coordinate with EM&V contractor where applicable.	If required, there will be management team coordination with the project teams and key stakeholders to support any requests from the CPUC approved EM&V contractors.

iv) Program-specific marketing and outreach efforts (provide budget)

v) Non-energy activities of program

Non-Energy Activities

The CCC/IOU Partnership will include non-energy activities such as creating presentations for industry and association conferences, attending various conferences, meetings, and outreach events, and distributing marketing materials through education programs.

The partnership will also continue the progress made with the establishment of a statewide approach to training and building operations to facilitate long-term energy efficiency savings. The training and education component of the partnership involves training of campus design staff, project managers, energy managers and others in using best energy practices in the construction, retrofit, and monitoring based commissioning of campus buildings and central plant infrastructures.

Subcontractor Activities

Subcontractors will be used to assist in program administration and management as well as in each of the three program elements. This approach was used successfully in the previous program cycle.

An administrative consultant will assist in day-to-day coordination and communication among the partners (the CCC and four IOUs) as follows:

- Provide staffing to the management and executive team and program specific implementation teams.

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- Assist in the three program elements, especially in the coordination and facilitation of partnership meetings providing timely and accurate meeting minutes. The consultant will provide communications between the partnership and the campuses, as well as providing analytical assistance to the IOUs, CCC as needed.
- Assist the CCC/IOU partners in providing timely and accurate program information for reporting to the CPUC.
- Assist in development of workshop agendas and materials, and facilitation of workshops and training sessions.

The campuses will hire energy efficiency retrofit subcontractors to install the energy efficiency measures for the retrofit component, and commissioning agents to assist in the performance of MBCx projects. Campuses may also hire engineering consultants to assist with project development, as needed.

- vi) *Non-IOU Programs*
- vii) *CEC work on PIER*
- viii) *CEC work on codes and standards*
- ix) *Non-utility market initiatives: Where applicable, include specific references to other sections of the application where there is more detail.*

c) Best Practices:

Type of Best Practice	Best Practice	Institutional Application(s)
Goals & Objectives	Develop and use clearly articulated objectives that are internally consistent, actionable and measurable.	Share clearly defined and obtainable goals that are developed with partner input. Track goals through bi-weekly management team meetings to ensure they are achieved.
	Develop tools to track the portfolio's performance on a continuous basis and report progress.	The Program Workbook is a living document that will facilitate continuous tracking and reporting.
Planning	Design programs within the portfolio based on sound program plans; where appropriate, utilize clearly but concisely articulated program theories.	The plan & program structure are based on sound program plans & theories.
	Build feedback loops into program design and logic Maintain the flexibility to rebalance portfolio initiatives, as needed, to achieve the portfolio's goals and objectives.	The Program Workbook provides a mechanism for closely monitoring progress and making adjustments as may be needed to meet the Partnership goals and objectives.
Staffing	Select highly qualified in-house staff &/or outside contractors to manage, design, implement and evaluate	SDG&E Program Managers have been assigned to each Partnership to assure continuous open communication and implementation success. SDG&E's resources will be

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Type of Best Practice	Best Practice	Institutional Application(s)
	<p>programs.</p> <p>Clearly define portfolio implementation responsibilities and clarify roles to minimize confusion.</p>	<p>supplemented with pre-qualified technical support to meet the needs of its Partners.</p>
Integration	<p>Leverage relationships from complementary organizations such as utilities, trade allies, and industry specialists.</p>	<p>Structured to leverage all resources, assets and relationships of SDG&E, it's Partners, and their participants, constituents, stakeholders, and other related individuals & organizations.</p>
Reporting & Tracking	<p>Clearly articulate the data requirements for measuring portfolio and program success.</p> <p>Design tracking systems to support the requirements of all major users: program administrators, managers, contractors and evaluators.</p>	<p>Frequent meetings between/among SDG&E, its Partners and their members/ constituents is designed to track and report Partnership progress and successes.</p>

d) Innovation:

The CCC's made significant progress in adopting innovative projects during the 2006-2008 program cycle. Projects and technologies in the high technology (IT systems) areas such as Server Virtualization, PC Power Management, CRT to LCD monitor replacements, and high efficiency UPS systems were a focus. Pilot Projects were established with PIER for emerging technologies such as: Integrated Classroom Lighting Systems (ICLS), Bi-Level Stairway Lighting systems, and Kitchen Demand Controlled Exhaust Hood ventilation controls. Additionally in 2008, the Partnership began collaboration with IOU Food Service Technology groups to expand energy efficiency in campus cafeterias. The plan for the 2009-2011 Partnership is to leverage these innovative pilot projects to a fully focused and large scale offering for the California Community Colleges.

e) Integrated/coordinated Demand Side Management:

Demand response programs provide tariff-based benefits to customers implementing demand response activities. For demand response initiatives involving the purchase and installation of equipment by SDG&E business customers, a plan will be developed to provide a financial incentive for energy savings resulting from the equipment supplied through the partnership program.

This partnership will look for opportunities to integrate demand response and other DSM services into the program implementation plan. Resources will be leveraged to improve implementation efficiency and reduce transactional impacts on partnership staff. IOU energy efficiency and demand response program staff will collaborate with partners to conduct comprehensive audits and identify energy efficiency measures and demand response opportunities. The approach will reduce technical resources by combining EE/DR audits to avoid duplication and collaborate on incentive offerings which will all minimize customer interruptions.

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The partnership will also assist, where applicable, facility management staff that are interested in solar technology and will provide recommendations in facility operations through energy audits to improve its facilities with less costly EE/DR measures prior to implementing more costly solar technologies.

f) Integration across resource types (energy, water, air quality, etc):
N/A

g) Pilots:
N/A

h) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program

See Appendix

8) Program Logic Model.

See Appendix

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II. Sub-Program Implementation Plan – CDCR/IOU Partnership Program

1) *Program Name*

California Department of Corrections and Rehabilitation/Investor Owned Utility Statewide Energy Efficiency Partnership – Statewide Institutional Partnership

2) *Projected Program Budget Table*

Table 5²⁰

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	Core Program #1					
	Sub-Program #1					
	Sub-Program #2					
	Etc.					
	TOTAL:					

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) *Projected Program Gross Impacts Table*

Table 6

Program #	Program Name / Sub-Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	Core Program #1			
	Sub-Program #1			
	Sub-Program #2			
	Etc.			
	TOTAL:			

²⁰ Definition of Table 1 Column Headings: **Total Budget** is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) *Program Description*

a) *Describe Program*

San Diego Gas and Electric Company (SDG&E) and the California Department of Corrections and Rehabilitation (CDCR) are collaborating to continue the Department of Corrections and Rehabilitation/Investor-Owned Utility (IOU) Partnership for the 2009-2011 cycle. The CDCR/IOU partnership is a customized statewide energy efficiency partnership program that accomplishes immediate, long-term peak energy demand savings and establishes a permanent framework for sustainable, long-term comprehensive energy management programs at CDCR institutions served by California's four large IOU's.

This program capitalizes on the vast opportunities for efficiency improvements and utilizes the resources and expertise of CDCR and IOU staff to ensure a successful and cost-effective program that meets all objectives of the California Public Utilities Commission (CPUC or Commission). The program also leverages the existing contractual relationship between CDCR and Energy Service Companies (ESCOs) to develop and implement energy projects at CDCR facilities statewide. CDCR is comprised of Adult Institutions, Parole Offices, Community Conservation Camps, and Juvenile Facilities which encompass an estimated 47,714,415 square feet of occupied space.

In the 2006-2008 program cycle SDG&E and the other IOUs collaborated with CDCR facility staff to identify opportunities for energy efficiency projects by conducting audits at each location and compiled equipment information to create a pool of projects for implementation. CDCR worked diligently to remove barriers that had previously prevented energy efficiency projects from being implemented with state agencies. The IOU Management team executed an agency specific agreement with CDCR to capitalize on the agency's authority to complete on-site facility construction and renovation. Unlike other state agencies, CDCR has an Office of Facilities Management that handles all construction and operates independently from the Department of General Services (DGS). Based on past success the IOU Management team will facilitate another agency specific agreement with CDCR for the next program cycle.

CDCR initiated a Request for Proposal (RFP) to procure contractors, engineering subcontractors, and Energy Services Companies (ESCO's) to assist with project implementation at all statewide prison facilities. CDCR was also one of the first agencies to take advantage of the Energy Smart financing program available through the Department of Finance (DOF) and administrated by the Department of General Services (DGS) to finance their energy efficiency projects. Energy Smart financing has provided over 4.7 million dollars coupled with IOU incentives to fund energy efficiency projects at CDCR facilities. Energy Smart loans have been the main source of financial funding for CDCR energy efficiency projects and will continue to act as the primary source in the next program cycle.

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Subsequently, the IOU Management Team initiated a RFP to procure an energy engineering and consulting firm devoted exclusively to the CDCR/IOU partnership program. The IOU Management Team has developed a cost-sharing model to help fund the Project Administrator dedicated to CDCR energy efficiency activities.

Future projects will continue to adopt a comprehensive approach by incorporating retrofits, new construction, and Demand Side Management (DSM) alternatives to include: demand-response, renewable self-generation, solar hot water and water efficiency. SCE, CDCR, and the other IOUs are confident that this partnership will be very successful through the next three-year cycle and are committed to expanding the program in the future.

b) List Measures

Measure Name	Rebate to end use customer or its assignee (\$/unit)
Customized - Indoor Lighting	\$ 0.24
Customized - Indoor Lighting Controls & EMS	\$ 0.24
Customized - Outdoor Lighting	\$ 0.24
Customized - Outdoor Lighting Controls	\$ 0.24
Customized - Motors	\$ 0.24
Customized - VFDs	\$ 0.24
Customized - HVAC EMS	\$ 0.24
Customized - Chillers	\$ 0.24
Customized - HVAC	\$ 0.24
RCx/MBCx	\$ 0.24
Overall Building Performance	\$ 0.10 above core
System Approach - Light Power Density	\$ 0.10 above core
System Approach - Chillers	\$ 0.10 above core
System Approach - Daylighting	\$ 0.10 above core
System Approach - HVAC Energy Reduction	\$ 0.10 above core

Table x: Program Specific Measures

c) List non-incentive customer services

The partnership shall provide the following non-incentive services:

1. Training and Education
2. Energy Audits
3. Technical Assistance
4. Design assistance
5. Due diligence/Project Review
6. Marketing/Outreach
7. Support of Assembly Bill 32, 900, Senate Bill 20-04

5) *Program Rationale and Expected Outcome*

a) Quantitative Baseline and Market Transformation Information:

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Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information:

Table 4

Program/Element	Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) Program Design to Overcome Barriers:

The CDCR/IOU is a mature program that has a repeatable process for creating a project pipeline, seeking project approval, procuring project funding, implementing the project, monitoring the project, and inspecting. That does not mean the program does not have its challenges that affects implementation. These challenges/barriers are:

- Barrier: Project Funding Constraints – With the challenges the state is facing with their budgetary constraints, great opportunities for energy efficiency projects are not easily addressed.
 - Solutions:
 - The Energy \$Mart Loan program has been created to finance energy projects through the Department of General Services.
 - The IOUs On-Bill Financing Programs are either being implemented or developed as a way of financing smaller retrofit and modernization upgrades.
 - Increase the purview of CEC loans to include other State facilities.
 - IOU’s to develop other innovative financing options.

- Barrier: Financial market situation: The current financial crisis has taken its toll on the Energy \$mart financing program. The Energy \$mart program has significantly reduced the amount of preferred lenders in the portfolio resulting in a time intensive competitive process for loan procurement.
 - Solution: Continue to develop and research alternative funding mechanisms for energy efficiency projects.

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- Barrier: High cost for project overhead: CDCR is unique in that not only must the department account for traditional project costs it must also account for additional labor and facility access. ESCOs have limited timeframes and access to facilities. Additionally, guards must be assigned at each location for additional security. Solution: The partnership will continue to offer high incentive rates to adjust for additional costs and to make projects viable.

d) Quantitative Program Targets:

See Master PIP Section 2

e) Advancing Strategic Plan goals and objectives:

See Master PIP Section

6) Program Implementation

a) Statewide IOU Coordination:

i) Program Name

California Department of Corrections and Rehabilitation/Investor Owned Utility
Statewide Energy Efficiency Partnership

ii) Program Delivery Mechanisms

Delivery mechanisms, program elements, and subcontractor activities are detailed above in Master PIP Section 4, a and Section 6, a, ii.

CDCR does not utilize additional delivery mechanisms at this time. A detailed table of management activities for project delivery is provided below.

iii) Incentive Levels

- a. Lighting projects- \$0.24/kWh
- b. Motors/VFDs/Compressors/Others - \$0.24/kWh
- c. HVAC projects with electrical savings - \$0.24/kWh
- e. New construction projects - \$0.10 above core SBD rates.

iv) Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

The CDCR/IOU partnership will rely on existing communication between the CDCR institutions and Operation and Maintenance (O&M) staff. This combined with the partnership management team structure will facilitate marketing activities through pre-established channels.

Key Activity	Description
Outreach	The partnership management team and program administrator will use preexisting communication channels to disseminate information throughout

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Key Activity	Description
	CDCR. Since the partnership is an agency specific agreement all interested parties are represented on the management team. Other pertinent parties are addressed my management team on an as needed basis.
Customer Follow-Up	CDCR partnership is an agency specific program. Follow-up is conducted at management team meetings held every 3 weeks.
Implementation and Training	The partnership management team and program administrator share energy efficiency knowledge and implementation experience with all pertinent parties through a series of meetings and workshops. These meetings and workshops are coordinated with other partnership programs as necessary.

- v) *IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable*

IOUs are continuously monitoring their respective local government partners to leverage off best practices and new/innovative programs. IOU’s are also researching opportunities with the CEC to help provide alternative funding sources such as CEC loans for CDCR medical facilities. In regards to the ARB there is constant observation on air pollution policies to help CDCR meet the mandate of AB 32.

- vi) *Similar IOU and POU programs*

The four IOUs strive to have consistency in their respective program offerings where practicable to make the transactional experience for the state agencies seamless and transparent. Where the IOUs differ in their implementation strategies, the state agencies are educated and guided by the management team to ensure complete process follow through. If POU’s have interest in implementing EE programs, the partnership shall provide technical assistance in designing these programs if requested.

- b) *Program delivery and coordination:*

The CDCR/IOU Partnership is in a unique position in which by collaboration, has certain delivery and coordination activities made possible by the agreements that are in place as required when entering into the partnership. Below are types of coordination activities already in place within the partnership:

i. Emerging Technologies Program

If opportunities allows, the IOUs bring forth emerging technologies to the partner either through PIER project opportunities or the management team’s introduction of technology demonstration projects.

ii. Codes and Standards Program

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Referenced above in the Master PIP

iii. WE&T Efforts

WE&T type of activities is an integral part of the MBCx strategy where facilities staff are trained to maintain building optimization adding value to their skill sets and further securing their need in the workforce

- x. *Program-specific marketing and outreach efforts
(provide budget)*

The outreach efforts for the partnership involves the Energy Management Section of the Facilities Management Division working directly with the individual prison sites

- xi. *Non-energy activities of program*

Non energy activities include the technical assistance the partner may need but do not have the resource available in house. The program provides this kind of support as an added benefit to the partner in addition to the monetary incentives they may receive from the IOUs. CDCR however has adequate resources with ESCOs on board.

- xii) *Non-IOU Programs*

n/a

- xiii) *CEC work on PIER*

PIER technology projects are introduced into the programs at the project level when opportunities arise.

- xiv) *CEC work on codes and standards*

- xv) *Non-utility market initiatives: Where applicable, include specific references to other sections of the application where there is more detail.*

c) Best Practices:

Reference Master PIP

d) Innovation:

N/A

e) Integrated/coordinated Demand Side Management:

N/A

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f) Integration across resource types (energy, water, air quality, etc):

SDG&E is exploring the option of including CDCR in a pilot water research program. Initial discoveries show that similarities exist between pilot facilities and CDCR's unique facilities.

g) Pilots:
N/A

h) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program :

See Appendix

8) Program Logic Model:

See Appendix

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III. Sub-Program Implementation Plan – UC/CSU/IOU Partnership Program

1) *Program Name*

University of California (UC)/California State University (CSU) / Investor-Owned Utility (IOU) Energy Efficiency Partnership

2) *Projected Program Budget Table*

Table 7²¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	Core Program #1					
	Sub-Program #1					
	Sub-Program #2					
	Etc.					
	TOTAL:					

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) *Projected Program Gross Impacts Table*

Table 8

Program #	Program Name / Sub-Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	Core Program #1			
	Sub-Program #1			
	Sub-Program #2			
	Etc.			
	TOTAL:			

²¹ Definition of Table 1 Column Headings: **Total Budget** is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) *Program Description*

a) *Describe Program*

The University of California, California State University (UC/CSU), San Diego Gas and Electric Company (SDG&E) and the three other Investor-Owned Utilities (IOUs) are collaborating to continue the Energy Efficiency Partnership Program to share energy efficiency best practices and to implement energy efficiency projects for immediate and long-term energy savings and peak demand reduction.

The UC/CSU/IOU Partnership is a natural fit with the goals, objectives and strategies articulated in the CLTEESP. The partnership was designed to achieve immediate energy and demand savings and establish a permanent framework for sustainable, comprehensive energy management programs. The partnership program is an existing statewide nonresidential program that will continue in the 2009-11 program cycle. It will continue to offer incentives for retrofit projects, monitoring-based commissioning, and training for campus energy managers.

SDG&E and the other IOUs have implemented the partnership program with the goal of extending the reach and effectiveness of traditional utility programs by using the UC and CSU system communication and outreach channels. This will achieve broad penetration of energy efficiency services on campuses. SDG&E will engage the UC and CSU systems to be strategic partners to help reach campus end-use customers through partnership activities and serve as channels for the IOUs' other energy efficiency and demand reduction programs.

The statewide partnership concept was pioneered during the 2004-05 program cycle by the four IOUs and the UC and CSU systems. The program was very successful in achieving the above goals. The UC/CSU/IOU Energy Efficiency Partnership will build on this success and emulate these strategies for the 2009-11 program cycle. Projects will adopt a comprehensive approach by including retrofits and DSM alternatives to include: demand-response, distributed generation (renewable self-generation), solar hot water and water efficiency.

b) *List Measures.*

Measure Categories	Technologies
Lighting	Includes indoor and outdoor fluorescent, HID, LED replacements, lighting controls, and other lighting projects.
Controls and other Equipment	Includes fans, motors, VFDs, air compressors, EMS systems and other equipment not covered under the lighting or HVAC categories.
Air Conditioning and Refrigeration	Includes system and major subsystem replacements
Other	New Construction, RCx, MBCx and others

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Incentives

Incentives will be paid on projects based on a cents per kWh saved. These rates are an average of \$.24/kwh saved. Incentives are paid by the utility to the agency upon completion of the project. They are based upon the agreed-upon energy savings determined as part of the project evaluation, subject to changes made during the project's implementation. All gas savings will be at \$1.00 per therm.

Incentive rates for the New Partnership will be as follows:

- Lighting projects will be at \$0.24/kWh
- Motors/VFDs/Compressors/Others - \$0.24/kWh
- HVAC projects with electrical savings will be \$0.24/kWh
- All gas savings will be at \$1.00/Therm

c) List non-incentive customer services

The partnership shall provide the following non-incentive services:

- a. Audit services
- b. Technical assistance
- c. Training and education
- d. Design assistance
- e. Due diligence project review
- f. Outreach activities

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information:

Table 4

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Program/Element	Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) Program Design to Overcome Barriers: .

d) Quantitative Program Targets:
See Master Section PIP

e) Advancing Strategic Plan goals and objectives:

The California Long-Term Energy Efficiency Strategic Plan (Strategic Plan) sets forth a statewide roadmap to maximized achievement of cost-effective energy efficiency in California’s electricity and natural gas sectors between 2009 and 2020, and beyond. **See Appendix:** summarizes how the Institutional Objectives and Strategies during the 2009-2011 program cycle contribute to the fulfillment of the Strategic Plan near-term action and steps toward the plan’s longer term goals.

6) Program Implementation

a) Statewide IOU Coordination:

i) Program Name

University of California (UC)/California State University (CSU) / Investor-Owned Utility (IOU) Energy Efficiency Partnership

ii) Program Delivery Mechanisms

Quality Assurance and Evaluation Activities

For reporting purposes, both the State and the IOUs require a stringent measurement and validation (M&V) process. For ESCO projects, the state requires measurement of energy savings that are accurate and objective to ensure that the ESCO is meeting the conditions of their performance contract. An ESCO includes in its proposal a guarantee to provide an energy analysis compiled by an M&V agent that the state and the IOU, where applicable, must approve prior to payment. M&V services are equally important to the IOUs because they must provide a verification of savings to the California Public Utilities Commission to substantiate their use of public good charge funds. The state and the IOUs require assistance from subcontractors to perform M&V tasks.

The partnership management team establishes and oversees quality assurance measures for the partnership programs including oversight and verification of subcontractor activities. These procedures and the associated reporting are developed in detail during the program implementation process. Project teams provide the level of due diligence and quality assurance that are consistent with current partnership and utility programs.

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Test samples include a representative percentage of pre- and post-installation confirmation assignments

iii) Incentive Levels

- a. Lighting projects- \$0.24/kWh
- b. Motors/VFDs/Compressors/Others - \$0.24/kWh
- c. HVAC projects with electrical savings - \$0.24/kWh
- d. All gas savings - \$1.00/Therm
- e. New construction projects - \$0.10 above core SBD rates.

iv) Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

The UC/CSU/IOU Partnership is fortunate to have a built-in marketing and communication network between the UC Office of the President, the CSU Chancellors Office, and the campus energy managers. This “buy-in” from the top opens up communications channels to the whole system. Combined with the existing management structure from the 2006-08 programs, this will facilitate marketing activities through pre-established channels for 2009-11. Due to support from the top of the organization, partnership programs will be very visible and provide opportunities to leverage existing UC and CSU conferences and meetings to raise awareness among campuses for the program. In 2006-08 this was accomplished via the UC Sustainability Conference and the CSU Facilities Conference. As such, marketing efforts are minimal and cost effective.

Key Activity	Description
Outreach	The partnership management team begins outreach efforts by contacting each campuses head of facilities management informing them of the availability of funds for approved measures and activities in the partnership. The team schedules meetings to discuss options, implementation criteria, benefits of program participation, and program offerings.
Customer Follow-Up	The partnership management team, in coordination with staff from the state and the IOUs, visit each targeted site to talk with facilities managers about the various options and proposed energy efficiency measures. After confirming an appropriate site for implementing measures and/or retro-commissioning, the management team meets the appropriate facilities managers to present the anticipated energy savings, other benefits, and considerations associated with the implementation.
Implementation and Training	The partnership management team share energy efficiency knowledge and implementation experience with other public agency entities through a series of meetings and workshops. These meetings and workshops are coordinated with other partnership programs.

v) IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

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Reference Master PIP

vi) *Similar IOU and POU programs*

b) *Program delivery and coordination:*

c) *Best Practices:*

Reference Master PIP

d) *Innovation:*

The UC/CSU campuses have made significant progress in adopting innovative projects during the 2006-08 program cycles. Projects and technologies in the high technology (IT systems) areas such as server virtualization, PC power management, and CRT to LCD monitor replacements, and high efficiency UPS systems were a focus. Pilot projects were established with PIER for emerging technologies such as: Integrated Classroom Lighting Systems (ICLS), bi-level stairway lighting systems, and kitchen demand controlled exhaust hood ventilation controls. Additionally in 2008, the partnership began collaboration with IOU food service technology groups to expand energy efficiency in campus cafeterias. The plan for the 2009-11 partnership is to leverage these innovative pilot projects to a fully focused and large scale offering for the UC/CSU Universities.

e) *Integrated/coordinated Demand Side Management:*

f) *Integration across resource types (energy, water, air quality, etc):*

g) *Pilots:*

h) *EM&V:*

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) *Diagram of Program :*

See Appendix

8) *Program Logic Model:*

See Appendix

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IV. Sub-Program Implementation Plan – State of California/IOU Partnership Program

- 1) *Program Name*
State of California/IOU Statewide Energy Efficiency Partnership Sub-Program

- 2) *Projected Program Budget Table*

Table 9²²

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	Core Program #1					
	Sub-Program #1					
	Sub-Program #2					
	Etc.					
	TOTAL:					

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) *Projected Program Gross Impacts Table*

Table 10

Program #	Program Name / Sub-Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	Core Program #1			
	Sub-Program #1			
	Sub-Program #2			
	Etc.			
	TOTAL:			

²² Definition of Table 1 Column Headings: **Total Budget** is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) *Program Description*

a) *Describe Program*

SDG&E and the State of California are collaborating to continue the State of California/Investor-Owned Utilities (IOU) Energy Efficiency Partnership program for the 2009-11 program cycle. This program's goals include sharing energy efficiency (EE) best practices and implementing projects to capture immediate and long-term energy savings and to produce mechanisms for peak demand reduction.

The program will assist the state's agencies to reduce the amount of energy they purchase from the grid by 20 percent by the year 2015, as required by the governor's Executive Order S-20-04 (i.e. Green Building Initiative (GBI)). Like all Executive Orders, the GBI is an unfunded mandate that requires State agencies to support the governor's environmental agenda.

Accompanying the GBI is the Green Building Action Plan (GBAP), which contains detailed instructions on how to achieve the mandated energy savings and reduction in demand. In addition to requiring all new construction and large renovations to meet Leadership in Energy and Environmental Design (LEED) silver certification requirements, the GBAP directs the state to benchmark, retro-commission, and retrofit its existing building stock.

The objective of the State of California/IOU Partnership program is to develop creative strategies to maximize the implementation of energy efficiency opportunities throughout the state. Through the partnership, the state can increase the value that agencies receive on their investments in energy efficiency measures. The overall goal is to uncover opportunities for retro-commissioning and retrofits by leveraging IOU incentive programs. In addition to financial benefits, the partnership provides a mechanism for the State to receive technical assistance from IOU staff and consultants. The partnership assists state agencies to comply with Executive Order S-20-04, the California Public Utilities Commission (CPUC) Decision 05-09-043, and the IOUs' CPUC-approved energy efficiency and demand response programs.

Program activities will operate on a statewide, integrated basis, focusing on the development and implementation of projects that will provide immediate energy savings and set the foundation for a long-term partnership that focuses on sustainability and best practices. This partnership will seek opportunities to coordinate and integrate projects with other demand side management (DSM) programs and will provide a comprehensive approach by including retrofits and DSM alternatives that include demand-response, distributed generation (renewable self-generation), solar hot water, and the energy efficiency related elements of water conservation.

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b) List Measures

Measure Name	Rebate to end use customer or its assignee (\$/unit)
Customized - Indoor Lighting	\$ 0.15
Customized - Indoor Lighting Controls & EMS	\$ 0.15
Customized - Outdoor Lighting	\$ 0.15
Customized - Outdoor Lighting Controls	\$ 0.15
Customized - Motors	\$ 0.18
Customized - VFDs	\$ 0.18
Customized - HVAC EMS	\$ 0.18
Customized - Chillers	\$ 0.24
Customized - HVAC	\$ 0.24
RCx/MBCx	\$ 0.24
Overall Building Performance	\$ 0.10 above core
System Approach - Light Power Density	\$ 0.10 above core
System Approach - Chillers	\$ 0.10 above core
System Approach - Daylighting	\$ 0.10 above core
System Approach - HVAC Energy Reduction	\$ 0.10 above core

c) List non-incentive customer services

The partnership shall provide the following non-incentive services:

- g. Audit services
- h. Technical assistance
- i. Training and education
- j. Design assistance
- k. Due diligence project review
- l. Outreach activities

5) *Program Rationale and Expected Outcome*

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information:

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Table 4

Program/Element	Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) Program Design to Overcome Barriers:

The State of California's departments and systems are large, complex organizations with diverse geographic, climatic, and operational needs that serve a broad range of stakeholders and constituencies. With this size and diversity comes an opportunity to save energy and energy costs on a scale that is significant to the IOUs and to California taxpayers. In the 2006-08 program cycle, the partnership allowed the State and IOUs to remove many barriers and achieve some milestones that include:

- **Barrier: Agreement of Objectives** – In order for the Partnership to have a clear vision that supports the goal, it is clear that a guiding agreement needs to be set in place to allow the team to initiate the effort.
 - **Solution:** A Memorandum of Understanding (MOU) with the State to implement the partnership program in support of the Green Building Initiative allowed the partnership to have the proper sponsorship that provides enablement for the Department of General Services (as the state's primary procurement agency) and cooperation from each of the 36 agencies.
- **Barrier: Project Delivery Mechanism** – The State of California's departments and systems are large, complex organizations with diverse geographic, climatic, and operational needs that serve a broad range of stakeholders and constituencies. As the primary state procurement agency, the Department of General Services needed to have a project delivery mechanism in order to take advantage of the great energy savings opportunities for the state's agency facilities.
 - **Solution:** A model contract between the state and an Energy Service Company (ESCO) was developed and approved.
 - **Solution:** A list of qualified ESCOs is being used during the selection process.
 - **Solution:** An ESCO Request for Proposals has been developed and the first round of projects is out for bid. A list of projects has been created for the project approval process.
- **Barrier: Project Funding Constraints** – With the challenges the state is facing with their budgetary constraints, great opportunities for energy efficiency projects are not easily addressed.
 - **Solution:** The Energy \$Mart Loan program has been created to finance energy projects through the Department of General Services.

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- Solution: The IOUs On-Bill Financing Programs are either being implemented or developed as a way of financing smaller retrofit and modernization upgrades.
- Solution: Increased IOU incentives offerings to motivate the state to complete EE projects.
- Increase purview of CEC loans to incorporate “other” State facilities.
- Performance contracting with ESCOs
- On-Bill Financing program
- Additional innovative financing options
- Barrier: Information Dissemination – Some of the agencies lack the technical expertise to develop or manage projects. Therefore the state loses out on opportunities to improve efficiency when staff is unaware of available technology and measures or a lack of funds, or lack of management support causes the removal of such measures from a project.
 - Solution: The management team is currently developing an information tool for agencies that helps reveal the savings potential of implementing projects with likely energy efficiency measures that may appear in agencies’ typical facilities. This is meant to appeal to the facilities managers or decision makers and allow the IOU to perform detailed energy audits that eventually lends itself to a project proposal.
- Barrier: Gap in ESCO Process and Small Projects – The prior program cycle revealed to the management team that while the ESCO process and Energy Smart project financing mechanism works for the larger projects, smaller projects cannot pass the Life-Cycle Cost Analysis and the ESCOs do not find the projects attractive. 95% of the state’s building inventory is less than 25,000 sq. ft. which indicates the majority of the projects are smaller.
 - Solution: The management team is exploring alternative project delivery and financing models which may include a mechanism that creates seed money for starting up projects and integrating it with the On-Bill Financing program. This would be augmented by innovative pilot project delivery models such as the project co-funding approach, low to no cost measure offerings, and third party program bridging to pilot concepts that may fill gaps in the program.
- Barrier: Specific agencies who partake in EE projects are unable to delegate utility incentives to their internal budgets
 - Solution: Work with Department of Finance to authorize agencies to keep incentives.
- Barrier: Lack of consensus between executive buy-in and facility management.
 - Solution: Management team to push for coordinated meetings with executives and facility management.
- Barrier: The State of CA and unfunded mandates
Solution:
 - State of CA to assign funding for specific energy efficiency projects.
 - Increase purview of state agencies under CEC loans.

d) Quantitative Program Targets:

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See Master Section

e) Advancing Strategic Plan goals and objectives:

The California Long-Term Energy Efficiency Strategic Plan (Strategic Plan) sets forth a statewide roadmap to maximized achievement of cost-effective energy efficiency in California's electricity and natural gas sectors between 2009 and 2020, and beyond. **Appendix R:** summarizes how the Institutional Objectives and Strategies during the 2009-2011 program cycle contribute to the fulfillment of the Strategic Plan near-term action and steps toward the plan's longer term goals.

6) *Program Implementation*

a) Statewide IOU Coordination:

i) *Program Name*

The State of California/IOU Energy Efficiency Partnership Program

ii) *Program Delivery Mechanisms*

Delivery mechanisms, program elements and subcontractor activities are detailed above in Master PIP Section 4, a.

The State of CA is unique in the fact that it utilizes benchmarking systems for project identification.

Benchmarking

The identification of potential projects begins with a benchmarking effort. The state uses the United States Department of Energy's benchmarking tool, Portfolio Manager, to determine the ENERGY STAR scores of all state-owned buildings. Low-scoring facilities may be candidates for retro-commissioning or retrofit projects.

- Buildings that receive scores of 75 or higher meet the requirements of Executive Order S-20-04.
- Buildings that receive an ENERGY STAR[®] score between 45 and 75 receive consideration for retro-commissioning.
- Buildings that receive scores lower than 45 are candidates for retrofits or renovation. These buildings would not benefit from retro-commissioning since the low score indicates the existence of problems that lie outside the scope of retro-commissioning, such as major equipment replacement.

Once a retro-commissioning or a retrofit project maximizes a building's energy efficiency, it is benchmarked again during the measurement and verification (M&V) process. Benchmarking provides the information that the state needs to compile a yearly report on progress made toward achieving the 20 percent reduction in energy

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usage by 2015 (mandated by Executive Order S-20-04), and allows the IOUs to document the energy savings accrued by the partnership. The state conducts these activities with assistance from the IOUs. In fact, during the previous cycle, the partnership was instrumental in providing support to the State, the IOUs, and administrator for the Portfolio Manager program at the U.S. Department of Energy to allow the IOU energy usage data to seamlessly transfer to the DOE database for benchmarking. These modifications benefited not only the state, but other customers, as well as the federal program operators. This unanticipated benefit reflects the type of opportunities the partnership makes available to the state.

iii) Incentive Levels

- a. Lighting projects- \$0.15/kWh
- b. Motors/VFDs/Compressors/Others - \$0.18/kWh
- c. HVAC projects with electrical savings - \$0.24/kWh
- d. All gas savings - \$1.00/Therm
- e. New construction projects - \$0.10 above core SBD rates.

iv) Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

The retrofit and retro-commissioning program elements use similar marketing approaches. The partnership management team, in coordination with DGS and other state agency staff conduct marketing and outreach efforts. These efforts are accomplished using contacts with facility administrators and managers. Team members inform them of the availability of energy efficiency services available through the partnership and other utility programs. Key marketing activities include:

Key Activity	Description
Outreach	The partnership management team begins outreach efforts by contacting the heads of facilities management for each department, informing them of the availability of funds for approved measures and activities in state facilities. The team schedules meetings to discuss options, implementation criteria, benefits of program participation, and program offerings.
Customer Follow-Up	The partnership management team, in coordination with staff from the state and the IOUs, visit each targeted site to talk with facilities managers about the various options and proposed energy efficiency measures. After confirming an appropriate site for implementing measures and/or retro-commissioning, the management team meets the appropriate facilities managers to present the anticipated energy savings, other benefits, and considerations associated with the implementation.
Implementation and Training	The partnership management team share energy efficiency knowledge and implementation experience with other public agency entities through a series of meetings and workshops. These meetings and workshops are coordinated with other partnership programs.

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- v) *IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable*

The partnership shall utilize the available CEC funding mechanism for the state hospital projects. There are currently two state hospital facilities in the pipeline to take advantage of this opportunity.

- vi) *Similar IOU and POU programs*

The four IOUs strive to have consistency in their respective program offerings where practicable to make the transactional experience for the state agencies seamless and transparent. Where the IOUs differ in their implementation strategies, the state agencies are educated and guided by the management team to ensure complete process follow through. If POUs have interest in implementing EE programs, the partnership shall provide technical assistance in designing these programs if requested.

- b) *Program delivery and coordination:*

The State of California/IOU Partnership is in a unique position in which by collaboration, has certain delivery and coordination activities made possible by the agreements that are in place as required when entering into the partnership. Below are types of coordination activities already in place within the partnership:

- i. *Emerging Technologies Program*

If opportunities allows, the IOUs bring forth emerging technologies to the partner either through PIER project opportunities or the management team's introduction of technology demonstration projects.

- ii. *Codes and Standards Program*

See Master PIP Section

- iii. *WE&T Efforts*

WE&T type of activities is an integral part of the MBCx strategy where facilities staff are trained to maintain building optimization adding value to their skill sets and further securing their need in the workforce.

- iv. *Program-specific marketing and outreach efforts (provide budget)*

The outreach efforts for the partnership involve working with individual state agencies that may have the resources or commitment to implement energy efficiency projects.

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v. Non-energy activities of program

Non energy activities include the technical assistance the partner may need but do not have the resource available in house. The program provides this kind of support as an added benefit to the partner in addition to the monetary incentives they may receive from the IOUs.

vi. Non-IOU Programs

The partnership understands that some third-party programs serve the purpose of filling program gaps. The IOUs see this as an added value to the program offering and makes the effort of augmenting the program's offering with these non-IOU programs.

vii. CEC work on PIER

PIER technology projects are introduced into the programs at the project level when opportunities arise.

viii. CEC work on codes and standards

N/A

ix. Non-utility market initiatives:

N/A

c) Best Practices:

See Master Section PIP

d) Innovation:

There are several innovative models currently being developed. They include:

- A co-funding model allows the project implementation activities to be shared between the agency and the IOU in order to facilitate implementation where barriers exist. In the state's stringent contracting requirements, one approach is to perform contracting and contract payments through the IOU's project implementation infrastructure. This system works around obstacles that agencies would normally encounter with the state's infrastructure while still complying with internal requirements.
- An On-Bill Financing pilot is currently in process with the California Department of Fairs and Exposition. The IOUs will complete this financing program's development with a take away from this pilot of the best practices as it affects On-Bill Financing.

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- Shared Savings-Direct Install program. The State of California is facing significant funding and implementation barriers the IOU's are looking at the potential of a Direct Install/Shared Savings pilot for the 09-11 cycle.

e) Integrated/coordinated Demand Side Management:

See Master Section PIP

f) Integration across resource types (energy, water, air quality, etc):

N/A

g) Pilots:

The State of California Partnership program is exploring different options for program delivery models that may fill gaps in program design. While the Retro-commissioning and ESCO process may work for larger projects, a solutions package for the small retrofit and modernization project is needed for the majority of the projects. The partnership program is currently underway with pilot projects that address the project development and financial barriers. These pilot projects are as follows:

- A co-funding model allows the project implementation activities to be shared between the agency and the IOU in order to facilitate implementation where barriers exist. In the state's stringent contracting requirements, one approach is to perform contracting and contract payments through the IOU's project implementation infrastructure. This system works around obstacles that agencies would normally encounter with the state's infrastructure while still complying with internal requirements.
- An On-Bill Financing pilot is currently in process with the California Department of Fairs and Exposition. The IOUs will complete this financing program's development with a take away from this pilot of the best practices as it affects On-Bill Financing.
- Shared Savings-Direct Install program. The State of California is facing significant funding and implementation barriers the IOU's are looking at the potential of a Direct Install/Shared Savings pilot for the 09-11 cycle.

h) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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7) *Diagram of Program :*

See Appendix

8) *Program Logic Model:*

See Appendix

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V. Sub-Program Implementation Plan – San Diego County Water Authority Partnership Program

a. Statewide IOU Coordination:

i) Program name

San Diego County Water Authority (SDCWA) Partnership Program

ii) Advancing Strategic Plan goals and objectives

The programs meet the goals of the strategic planning process by including maximizing energy efficiency in existing construction through Water Authority member agency retrofits, rapidly upgrading and expanding energy efficiency training and information through education and outreach, and offering financial incentives for adopting energy efficiency measures such as the installation of HEWs. Specifically, this program supports the Strategic Plan in the following manner:

- Provide retrofits and HEW rebates to improve whole-house efficiency in existing homes (2a. Core Residential, Strategy 2)
- Expand EE training and information through education and outreach, and initiate a communications campaign to encourage voluntary conservation goals (10. Marketing, Education and Outreach, Strategy 3)

iii) Program Delivery Mechanisms

Implementation of this program will be a continuation of a highly successful Water Authority-SDG&E partnership as noted, the existing partnership will be responsible for the installation of over 30,000 HEWs by the end of this funding cycle. This program will follow the same general structure and will exceed the previous funding cycle's results.

In the areas of education and outreach, the Water Authority executed major conservation-themed communications campaign in the past, such as the successful "Waterhog" campaign in the early 1990s. The Water Authority is preparing to execute another major communications campaign starting in April 2008, to help achieve its voluntary conservation goals for this year.

For energy efficiency surveys for water agencies, the most common areas for improvements are pump checks, pump station upgrades, high-efficiency motor replacements, variable frequency drives, lighting upgrades, and air conditioning retrofits. Demand reductions may be achieved through timing of operations, if feasible.

Implementation of retrofit projects identified through energy efficiency surveys typically result in a system average savings of 15%. Considering some retrofit projects may have been performed, it is feasible that at least a 5% energy savings will be achieved.

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iv) Program Design to Overcome Barriers

Barrier:

The water conservation device incentives program will integrate energy savings and water savings through one device, the High-Efficiency Clothes Washer (HEW). Both the Water Authority and SDG&E will benefit directly through a reduction in energy demand and water demand since HEWs will use less energy and water. In fact, a reduction in water use also saves embedded energy. Although the embedded energy savings are not yet quantifiable, they are significant.

Solution:

The programs will achieve energy savings through a comprehensive approach, including the installation of energy efficient appliances, retrofit of inefficient lighting, HVAC, improved water pumping efficiencies, and education and outreach. The use of various program elements, including, rebates and other incentives, marketing, and coordination between SDG&E and the Water Authority, will ensure a comprehensive package.

v) Incentive levels

The High-Efficiency Clothes Washer (HEW) rebate program provides a financial incentive to encourage customers to choose a HEW instead of standard top-loading models. HEWs use 65% less water, 55% less energy, and less detergent; clean better, and are gentler on clothes than standard clothes washers. Drying time can also be cut in half. This program generates both water and energy savings. HEWs must be from the list of approved models and have a water efficiency factor of 6.0 or less. The program offers a rebate worth up to \$175.

The rebate offered through this program will reduce the cost of the HEW; therefore, making it an option for more customers. Through the HEW rebate program, an estimated 40,000 HEWs will be installed in the San Diego region by December 31, 2011, and generate approximately 792,000 therm savings, and 12,300 acre-feet of water savings.

Commercial HEWs can also be included in the program. Connectionless food steamers and steam traps are additional water conservation devices under consideration for the incentive program.

vi) Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

This program is a public outreach and education campaign designed to stimulate greater residential and business understanding and appreciation of how saving water can also save energy. The program aims to achieve greater levels of awareness that eventually lead to increased numbers of residential, commercial, institutional, or other customers that participate in joint water-energy conservation programs offered by the Water Authority and SDG&E, such as rebates for high-efficiency clothes washers, commercial water/energy use audits, and other existing or future programs such as landscape-oriented incentives.

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Another aim is to increase energy and water-saving behaviors that help reduce regional energy demands by reducing demand for energy-intensive imported water.

- vii) *IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable*
- viii) *Similar IOU and POU programs*

b. Program delivery and coordination:

Energy Efficiency Surveys for Water Agencies

The Water Authority and its 24 member agencies own and operate numerous facilities including office buildings, flow control facilities, pumping facilities and water treatment facilities. Although each of the member agencies has pursued energy efficiency programs to reduce energy costs, many opportunities to improve energy efficiencies and reduce energy consumption still exist.

This program will provide additional opportunities to improve energy efficiencies and reduce energy costs for participating agencies. The program is intended to offer and perform surveys that will enable the Water Authority and its member agencies to identify energy efficiency opportunities, conservation measures, solar opportunities, and where feasible, opportunities for demand reduction. In addition, in order to achieve the efficiencies identified in the surveys, the program will provide implementation assistance, including the identification of and application for various incentives, rebates, or other financial assistance available for retrofit projects.

The program also aims to increase energy efficiency, energy conservation, and demand response knowledge for the Water Authority and member agency maintenance staff by providing them with numerous education and/or training opportunities

c. Best Practices:

d. Innovation:

e. Integrated/coordinated Demand Side Management.

f. Integration across resource types (energy, water, air quality, etc): .

g. Pilots:

h. EM&V:

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The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) *Diagram of Program :*

See Appendix

8) *Program Logic Model:*

See Appendix

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VI. Sub-Program Implementation Plan – University of San Diego Partnership Program

a. Statewide IOU Coordination:

i. Program name

University of San Diego Partnership Program

ii. Program Delivery Mechanisms

The overall goal of the University's Sustainability and Climate Change Initiative is to reduce Green House Gas (GHG) emissions by creating a more sustainable campus with a smaller environmental footprint.

Specific objectives to achieve that goal include:

- 1) Reduce overall energy consumption (kWh);
- 2) Reduce campus demand (kW);
- 3) Increase use of renewable energy, both generated on-site and purchased, and
- 4) Educate campus audiences in identifying and adopting energy saving practices not only on campus, but also in their careers and homes.

All energy savings projects will focus on USD facilities. Education and outreach activities will be directed at USD students, faculty, staff, alumni, parents and friends of the University.

The proposed partnership is comprehensive in nature. From a broad perspective, the projects included will address facility energy use, education of building occupants, education of the broader USD community living in San Diego Region, and education and outreach activities targeted at the real estate and development communities.

The proposed partnership seeks to first maximize energy and demand savings opportunities on campus through efficiency measures. Once efficiency and demand response participation are maximized, USD will explore ways to generate electricity onsite either by efficient use of fossil fuels, such as cogeneration, or by renewable technology, such as photovoltaic. Where possible, USD will explore opportunities to create net zero energy buildings.

Program Measures and Services

To implement the energy efficiency retrofit portion of our partnership, and with the help of Siemens Building Technologies, USD will conduct a campus-wide audit of all 34 buildings

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to identify all the possible energy and demand reduction opportunities and demand response possibilities.

The proposed partnership will target all end uses, including but not limited to lighting, heating, ventilation, and air conditioning (HVAC); energy management systems, appliances, vending machines and other equipment, computer networks, servers, and other computer-related hardware. It will look at all aspects of energy use on campus, from chiller systems to every desktop computer, reinforcing the comprehensive approach we are undertaking.

Siemens Building Technologies has completed the first phase of an analysis and has developed a slate of projects for implementation starting in 2009. These projects include:

- condenser water system optimization at the main central chilled water plant,
- campus-wide EMCS retro commissioning,
- Loma Hall chilled water plant retrofit,
- Loma Hall air handling units replacement,
- University Center air handling units replacement,
- Shiley Science and Technology Building Aircuirtry System installation.

Measurable Energy and Demand Savings:

USD proposes to take a comprehensive approach to identifying and implementing energy and demand savings projects on campus, including:

- conducting comprehensive energy efficiency and demand response assessments,
- implementing energy savings projects in existing USD buildings and
- Designing new and major renovation projects to seek LEED certification.

Working with its energy partners (Siemens Building Technologies), USD has identified a range of retrofit projects on a building-by-building basis, which will be the first projects undertaken in the 2009-2011 timeframe under the partnership. USD will be conducting a comprehensive campus-wide audit to identify energy efficiency and demand response opportunities across all USD facilities. USD will assess all facilities of the 186-acre campus, including 34 buildings totaling 2,738,616 square feet of usable space. Projects identified in this process, which is expected to be complete in 2008, will be added to those already identified by Siemens Building Technologies to comprise the total energy savings under the partnership. USD is also evaluating opportunities to add renewable energy generation technology, such as photovoltaic, to buildings on campus.

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iii. Program Design to Overcome Barriers

Barrier:

Currently there are no partnerships between SDG&E and private universities. The UC/CSU campuses have had a statewide partnership for several years. Not only have these partnerships included dedicated incentive funding, they also have had incentive levels higher than those available to other similar institutional and commercial customers.

As in many other similar enterprises, USD does not have a dedicated, fulltime energy manager. The Facilities Division is responsible for energy management as well as for operating and maintaining all campus facilities. While USD has always been committed to efficiency, having staff time dedicated to energy and sustainability tasks would allow USD to develop the more comprehensive, campus-wide approach proposed in this partnership.

One of the barriers to conducting more energy management activities for universities like USD is the availability of incentives. Incentives are an important component to the financial justification for energy projects. If incentive monies are not available under the first-come-first-served system of most programs, some projects cannot be adequately justified from a financial perspective. Having a dedicated pool of incentive funds—similar to the UC/CSU system—would provide assurances that a certain amount of funding was available, allowing USD to plan better over the 2009-2011 program cycle.

USD is aware that a program is under development for private schools, including K-12 and universities. As the largest private university in the region, USD could easily exhaust a majority of the funding, leaving little or no funding for other schools in this sector. Providing a pool of incentives under a partnership would allow more schools to participate in this new program.

Solution:

Energy efficiency has always been an important part of USD's facility planning and management. In the past, USD has conducted energy projects and participated in SDG&E's programs to the extent possible. Earlier energy efficiency efforts were typically done on a building-by-building approach. Using resources provided through the proposed partnership, USD seeks to take a more comprehensive approach to energy reductions and management. To accomplish this, USD requests funding for measures-based incentives and staff time to coordinate and execute projects.

California's Energy Action Plan describes a preferential list of resources that utilities should use when seeking additional energy supply. This "loading order" emphasizes energy efficiency and demand response as the least-cost and cleanest forms of energy supply available. Once efficiency and demand response have been exhausted, the loading order recommends seeking energy from distributed generation and renewable energy. This approach is not only appropriate for utility-scale planning; it is also relevant to institutions like USD. This is particularly true as USD seeks to reduce its carbon footprint. As the USD Sustainability Task Force examines measures to reduce the University's greenhouse gas emissions, focusing on the resources emphasized in the loading order is necessary.

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The Task Force's strategic plan will incorporate recommendations on energy efficiency, demand reduction response, renewable energy, and the energy associated with water consumption.

The Task Force is taking a whole campus systems approach to assessing and mitigating greenhouse gas emissions.

iv. Advancing Strategic Plan goals and objectives

USD is proposing a partnership in the "Other" category; therefore, many of the specific issues addressed in the strategic plan may not apply. Below we have addressed some of the main issues as they apply to our partnership and proposed activities.

- Net Zero Energy Opportunities—highly efficient buildings with associated renewable energy generation (3. Commercial Sector, Strategy 4)
- Leading by example, with built projects and implementation of policies (3. Commercial Sector, Strategy 2)
- Enforcing state energy efficiency/conservation codes and standards (7. Codes & Standards, Strategy 2)
- Adopting stricter local codes for new and existing buildings (7. Codes & Standards, Strategy 1)
- Incentivizing projects that voluntarily exceed state and local minimum energy standards (7. Codes & Standards, Strategy 1)
- Requiring higher energy standards for projects in redevelopment (7. Codes & Standards, Strategy 1)
- Requiring municipal contractors and vendors to meet higher energy efficiency standards for services and products that they provide to local government (7. Codes & Standards, Strategy 1 and 12. Roles of Local Government, Strategy 1)
- Setting policies and establishing goals for their communities
- Districts for meeting affordable housing goals
- Developing and implementing programs that are tailored to their communities' needs
- Collaborating with other entities, including IOUs, in outreach initiatives, and providing education and technical assistance to local residents and businesses, if resources are available
- Promoting energy efficient communities through community design, land use and zoning requirements
- Recognizing local individuals and businesses for exemplary energy management
- Promoting green technology oriented economic development.

v. Incentive levels

vi. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.

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The proposed marketing and outreach activities seek to touch everyone associated with the University, including all students, faculty, staff, alumni and parents. This broad approach will allow us to communicate our efforts, the general benefits of energy efficiency, and the availability of regional energy programs to nearly 100,000 people.

The work by the Burnham Moores Center for Real Estate in the partnership will seek to educate stakeholders from the real estate and development communities in the San Diego Region. Barriers currently exist at all levels of the real estate and building process, from the permitting process to the financing process. Targeting outreach activities and events at the broad development community will help to educate this very important community.

To accomplish overall goals to make USD more sustainable and to reduce greenhouse gas emissions, USD will implement a range of strategies. The principle strategies are listed below.

- Simplify and Standardize Relevant Policies and Codes at Statewide Level: USD seeks to institutionalize green building protocols, including a process to evaluate all new projects and to conduct regular assessments to maximize efficiency in buildings and other equipment. USD also seeks to create better cross-departmental cooperation on complex projects that involve the jurisdiction of many departments on campus. Several key areas, like building maintenance, are divided among several different departments. By streamlining these processes, USD hopes to improve the effectiveness with which we identify, finance, implement, and maintain energy improvement measures.

Build Capacity for Local Governments to Lead by Doing: By hiring a full time Partnership Manager, USD will be increasing its capacity to develop and implement energy efficiency, renewable energy, and green building projects on campus. The Student Life Pavilion project is a good example of how USD will lead by example and build capacity. USD, with the technical support of SDG&E, is currently evaluating how to achieve a LEED Silver status on the buildings. This process has helped to increase knowledge and awareness of LEED certification. The proposed Partnership Manager will be responsible for directing the LEED certification process. Once complete, the Student Life Pavilion will provide a gateway into USD's sustainability initiatives. USD hopes to develop educational signs and kiosks to educate the USD campus and visitors about our sustainability efforts.

- Maximize Energy Efficiency in New and Existing Construction through Local Government Policy: The Sustainability and Climate Change Task Force is currently assessing existing policies in the areas of new construction, purchasing, recycling, etc. It is anticipated that USD will develop a policy to require some level of LEED rating on all new construction and major renovation projects. It is also possible that USD will consider a policy to address existing buildings to increase energy performance and sustainability.

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- Rapidly Upgrade and Expand Energy Efficiency Training and Information for Local Governments: USD has participated in local energy efficiency training sessions offered by SDG&E and other program providers in the San Diego region. As part of the partnership, USD will increase training efforts to ensure key personnel, including facilities management employees, receive relevant training. The proposed Partnership Manager position will be required to attend training sessions on energy efficiency, project financing, renewable energy, green building, and climate reduction planning.
- Increase Financial Incentives for Local Governments to Adopt Energy Efficiency and other Sustainability Measures: USD is exploring innovative internal financing measures to allow the campus to implement efficiency and renewable energy projects. In addition, as is the case in the broader community, particularly in local governments, perverse incentives exist in certain departments on campus that may provide disincentives to implementing sustainable practices. One example is that the parking department would lose revenue if a program were successful in promoting alternative modes of transportation. The resulting reduction in parking revenue should not be seen as a failure and incentives should be put in place to encourage this outcome. One possibility is to make the same department responsible for parking and transportation and to develop a balanced set of metrics to ensure a sustainable outcome. Similar situations may exist in the organizational structure related to energy.
- Local Governments Mobilize Community and Set Community-wide Goals and Strategies: USD's overall campus Sustainability and Climate Change Strategic Plan will cover the entire USD campus community, including academics (sustainability across the curriculum), facilities – both physical plant and auxiliary (bookstore, print shop), procurement, student life, and the mission and ministry division. Not only will USD's plan touch every aspect of campus, it also will engage and empower members of the entire USD community to help implement the vision, goals and necessary strategies.
- Pilot Projects: As part of the partnership, USD will seek to identify pilot projects to demonstrate new technologies and techniques. In particular, as part of the campus wide evaluations of water, energy, and waste, USD will try to identify opportunities to develop net zero energy building projects in which energy efficiency is maximized and renewable energy is used to offset the annual energy needs of the building.

vii. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

viii. Similar IOU and POU programs

b. Program delivery and coordination:

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

Staffing:

To implement the proposed partnership activities, USD plans to staff the project with 1.5 FTEs. These positions will be responsible for managing the initiative, including regular reporting, budget management, and communications with SDG&E; working with the facilities team to identify and implement needed projects; facilitation of data gathering to monitor progress and any measurement and verification activities associated with the partnership; coordinating all education and outreach activities, including event planning, collateral development and distribution, coordinating partnership activities that include work from different departments and academic disciplines on campus

ix. Program-specific marketing and outreach efforts

USD will develop initiatives to promote awareness of energy efficiency and programs available to San Diego area residents. In conducting the education and outreach elements of the partnership, USD activities will inform and engage USD's entire campus community audiences including 7500 fulltime graduate and undergraduate students, 367 full-time faculty, 399 part-time faculty, 1062 staff and 50,000 alumni, as well as current and past parents as contact information is available, and donors and friends as appropriate. USD will target the public that attends events on campus, including high profile events at the Joan B. Kroc Institute for Peace and Justice and the Jenny Craig Pavilion. Among options USD will employ are electronic communication (e.g., website, e-mail, e-newsletters), print media (e.g., brochures, posters, magazines, letters). In addition, the Burhham Moores Center for Real Estate will provide outreach and education to promote SDG&E programs, education of the real estate and development communities on green building issues, research on relevant topics, such as economics of green building.

- Siemens Building Technologies is currently in the process of conducting energy assessments at USD. The assessment includes the following elements:
- An investment grade energy audit of the entire campus to thoroughly evaluate all relevant mechanical, electrical, water, and automation systems;
- Monitoring and trending of select equipment via the existing energy management controls system (and portable data loggers where necessary) to analyze system efficiencies, performance, and operating characteristics;
- A detailed analysis of all feasible energy efficiency, demand response, water conservation, and alternative energy opportunities Facility Improvement Measures (FIM).
- A life cycle cost analysis of all recommended FIM.

x. Non-energy activities of program

To increase the effectiveness of the audits, the partnership team will assess each building and area of campus for renewable energy opportunities. This approach will allow USD to explore the possibility of building projects with a range of paybacks together in cost effective packages.

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As part of USD's efforts to promote sustainability across the campus, the proposed work comprises two main categories:

- 1) Measurable Energy (kWh and therm) and Demand (kW) Savings; and
- 2) Education and Outreach.

c. Best Practices:

The program design integrates various lessons learned from previous and existing partnerships.

d. Innovation:

e. Integrated/coordinated Demand Side Management:

See Program Delivery Mechanisms section

f. Integration across resource types (energy, water, air quality, etc):

g. Pilots:

h. EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) *Diagram of Program :*

See Appendix

8) *Program Logic Model:*

See Appendix

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

Appendix A: CCC Program Diagram

Table A1 – CCC Outreach Process

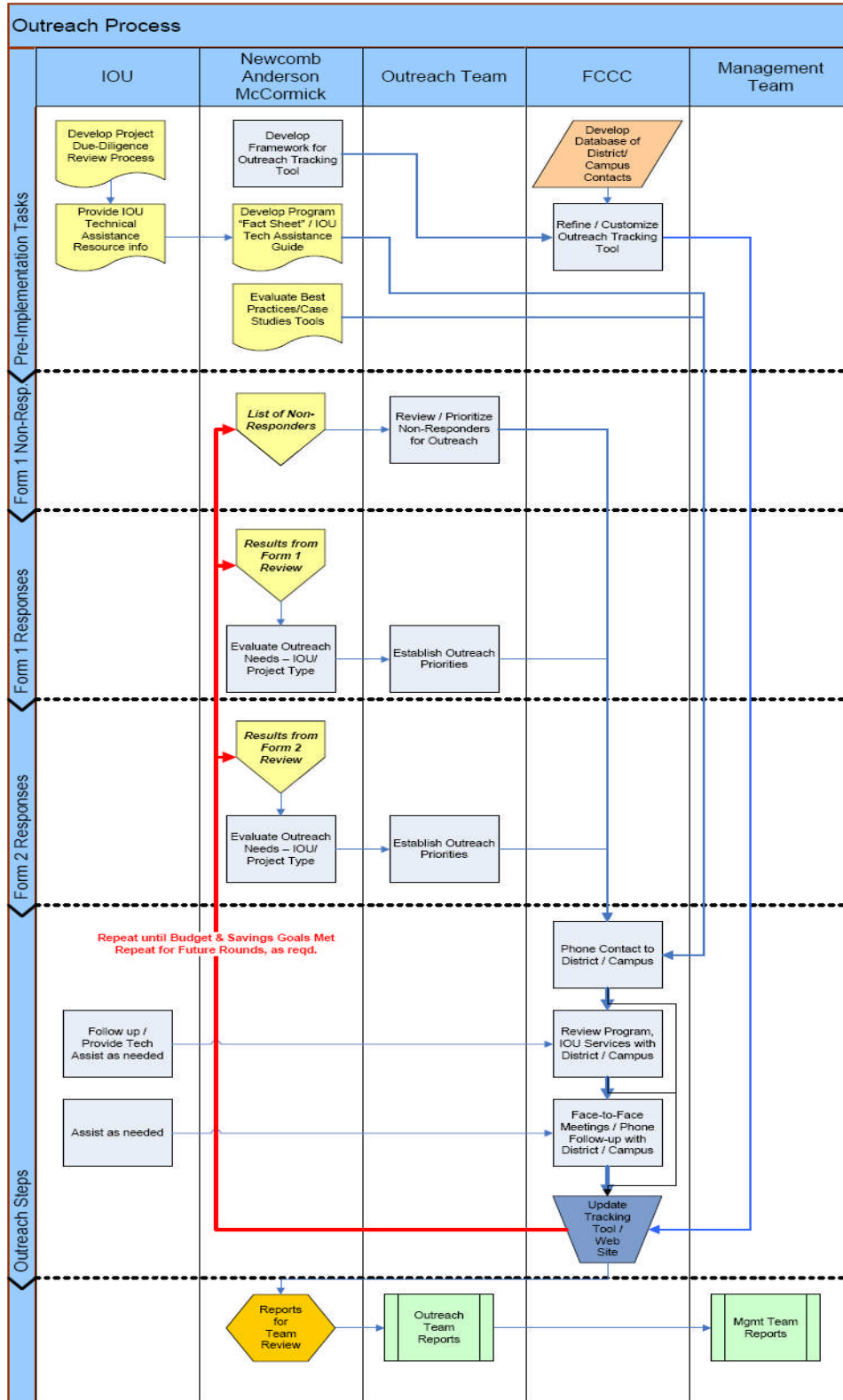


Table A2 – CCC EE Project Proposal and Approval Process

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

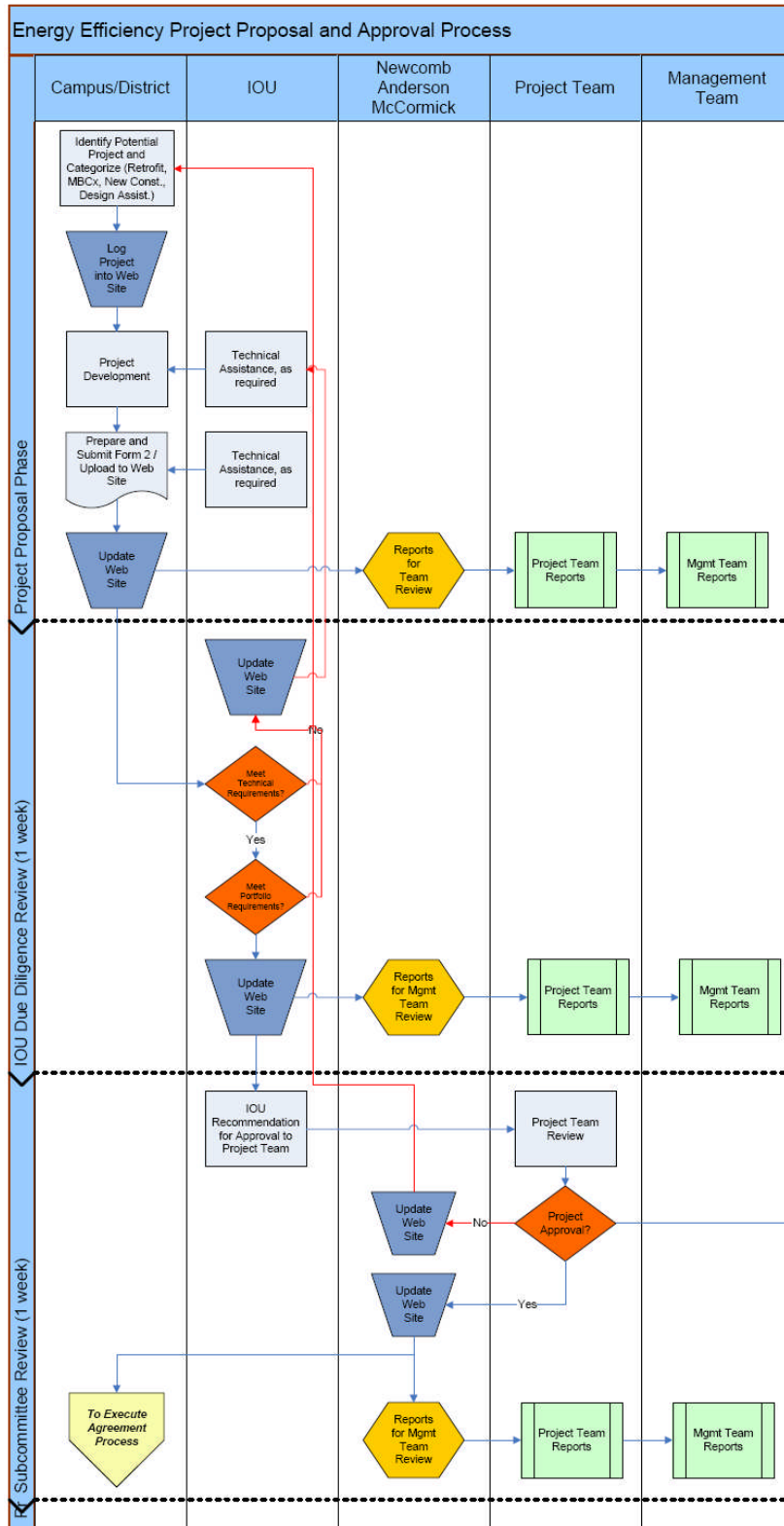


Table A3 – CCC Execution of Project Agreement

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

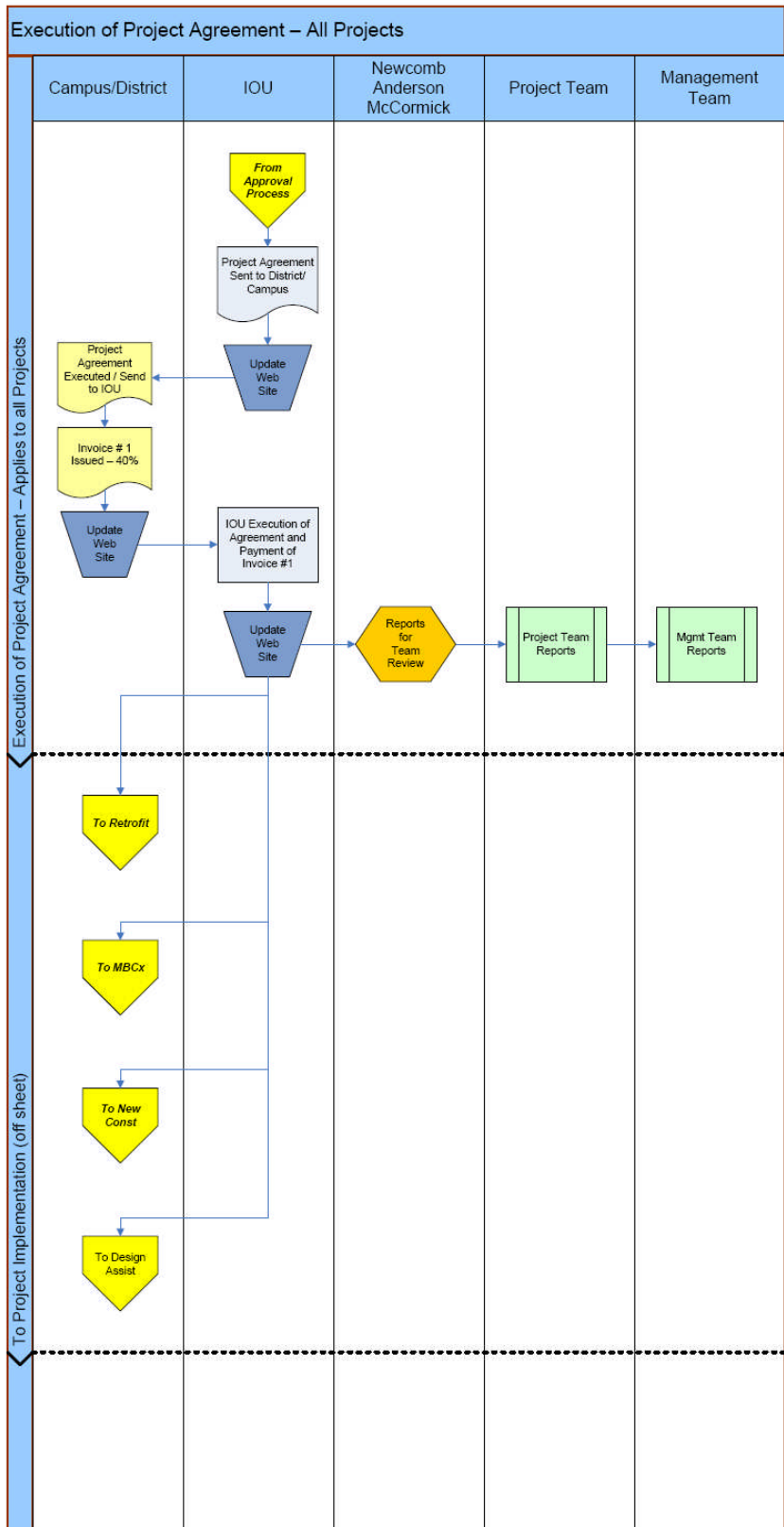


Table A4 – Retrofit Program Implementation Process

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

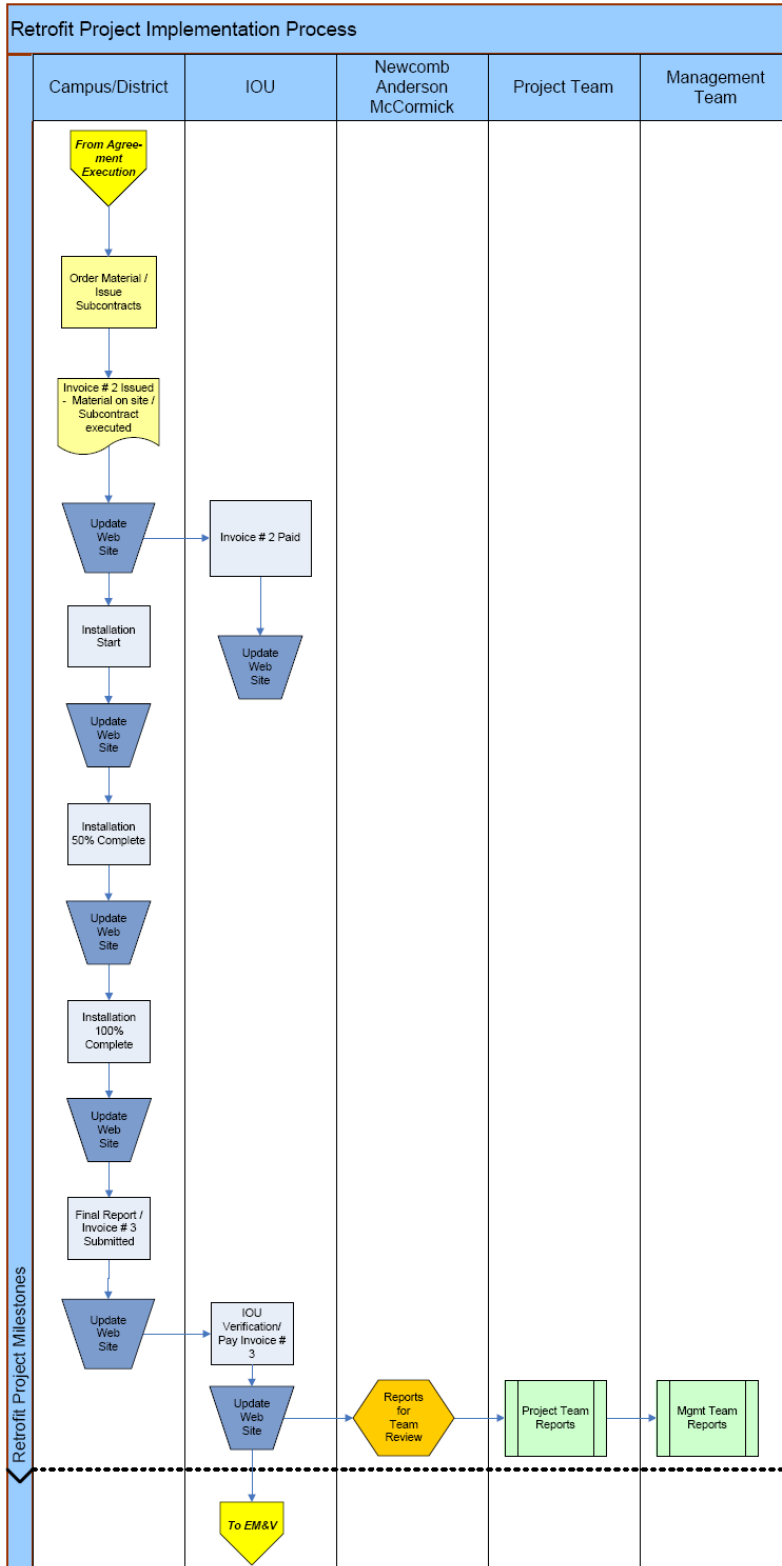
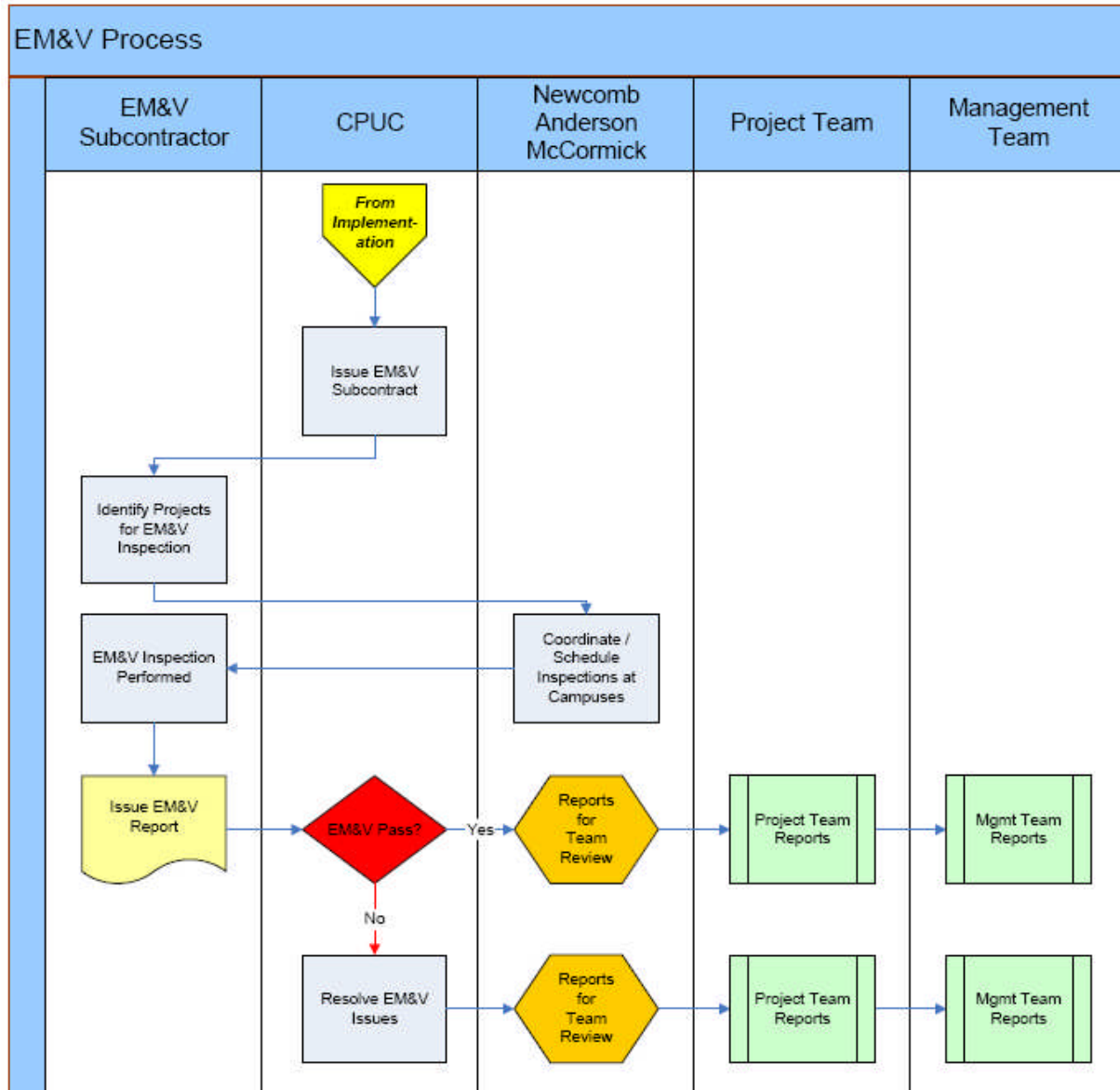


Table A5 – CCC EM&V Process

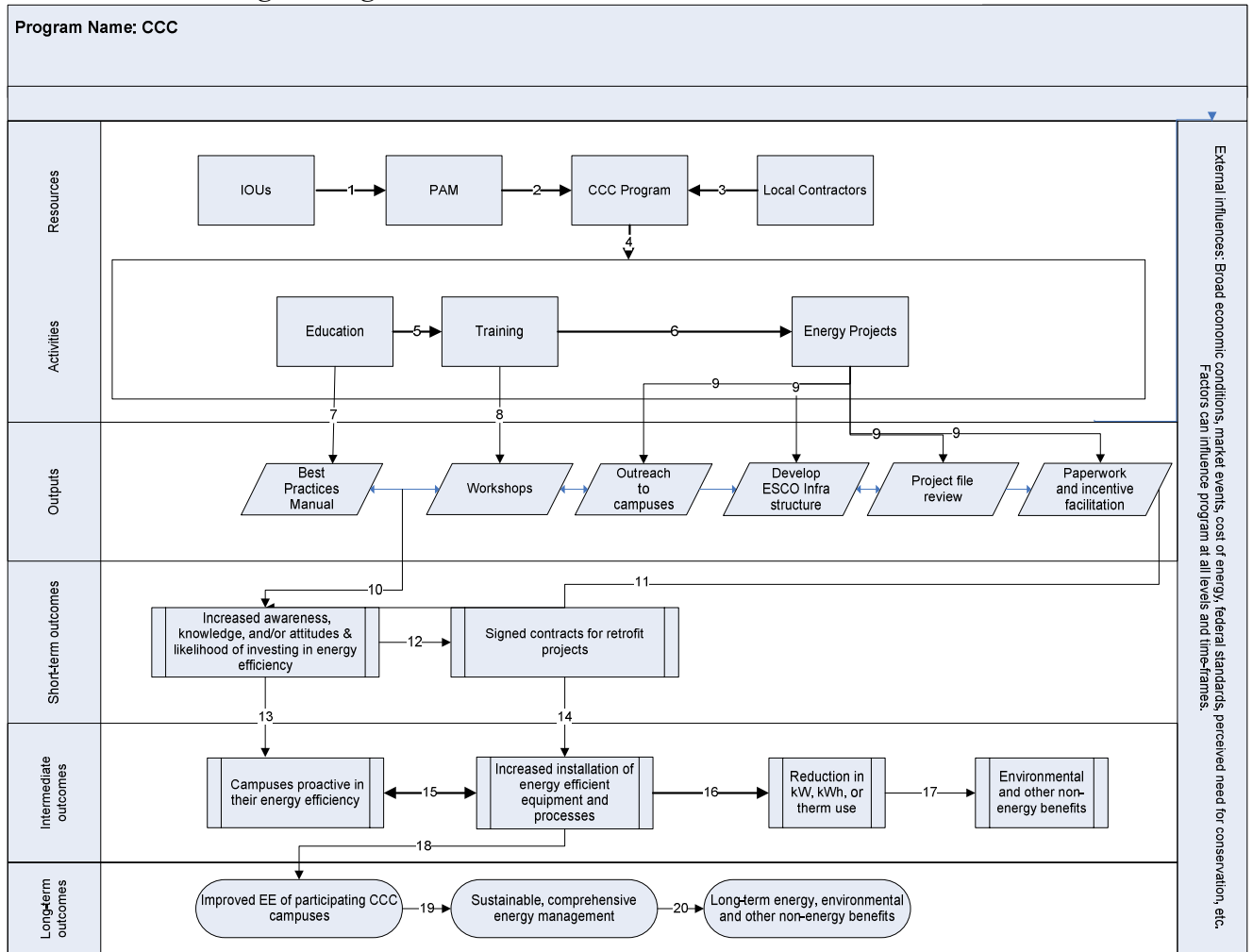
2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan



2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

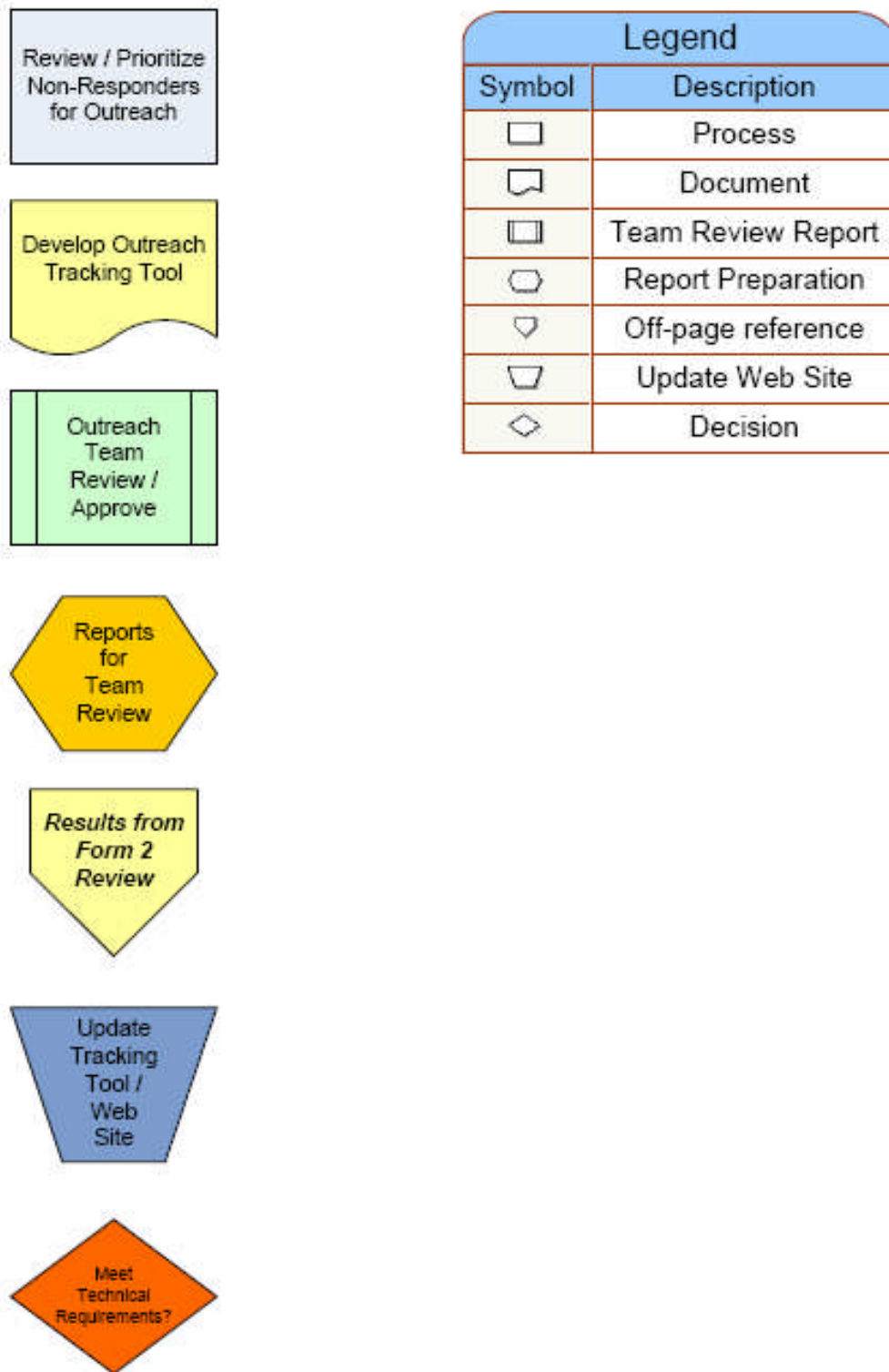
Appendix B: CCC Program Logic Models

Table B1 – CCC Program Logic Model



2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

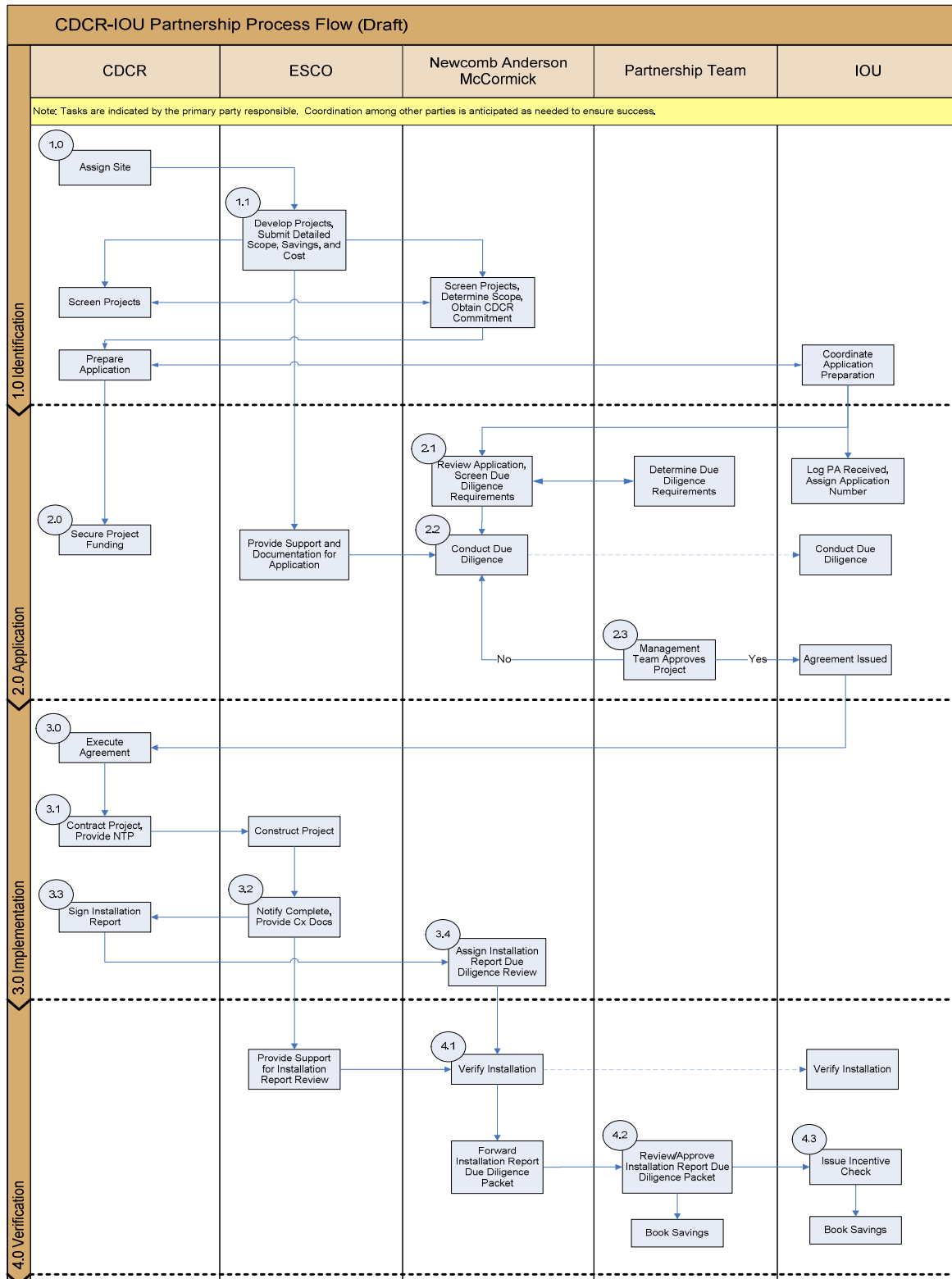
Table B2 – CCC Logic Model



Appendix C: CDCR Program Diagrams

Table C1 – CDCR Process Flow

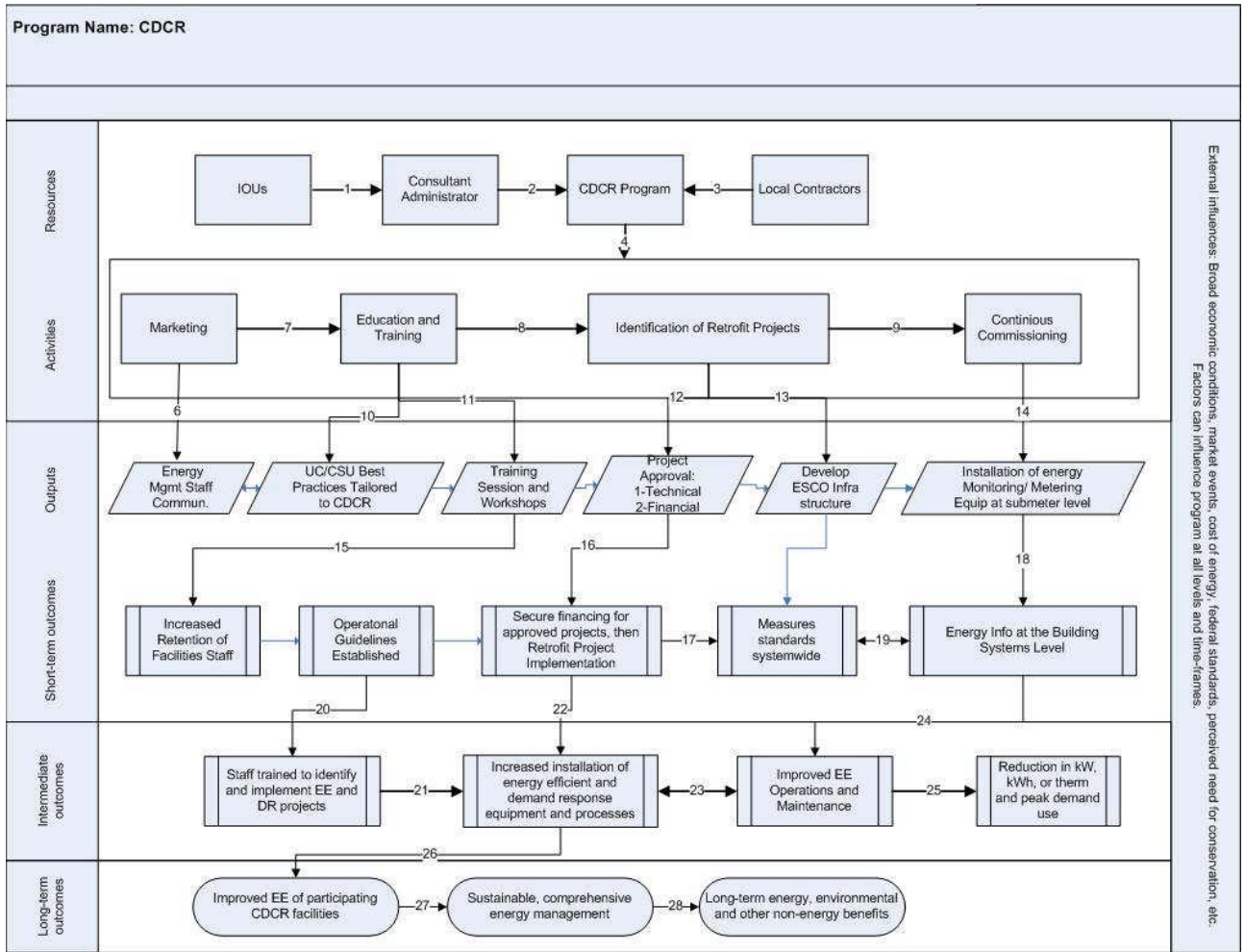
2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan



Appendix D: CDCR Program Logic Model

Table D1 – CDCR Logic Model

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan



Appendix E: UC/CSU Program Diagrams

Table E1 – UC/CSU Project Development UC/CSU

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

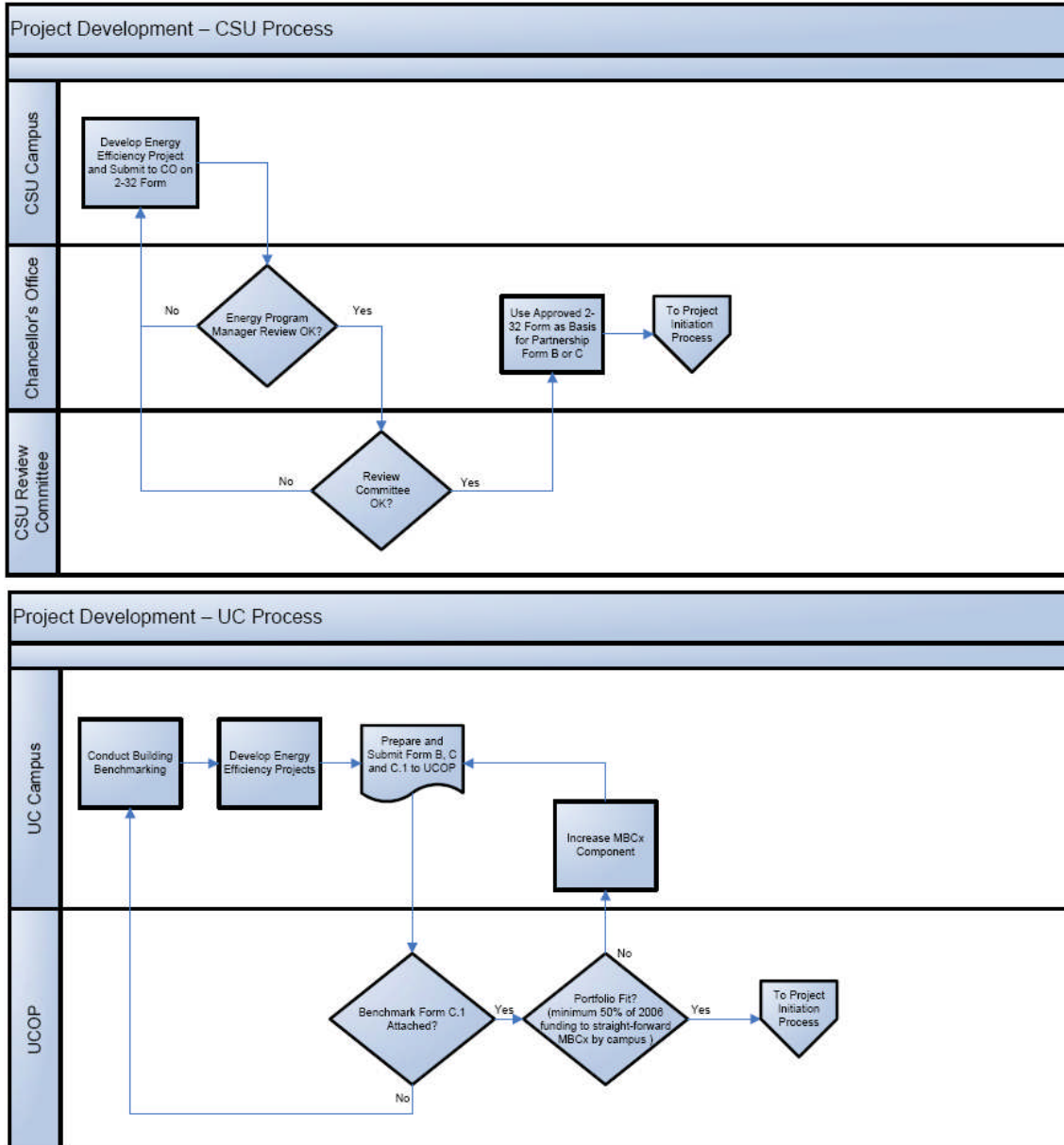
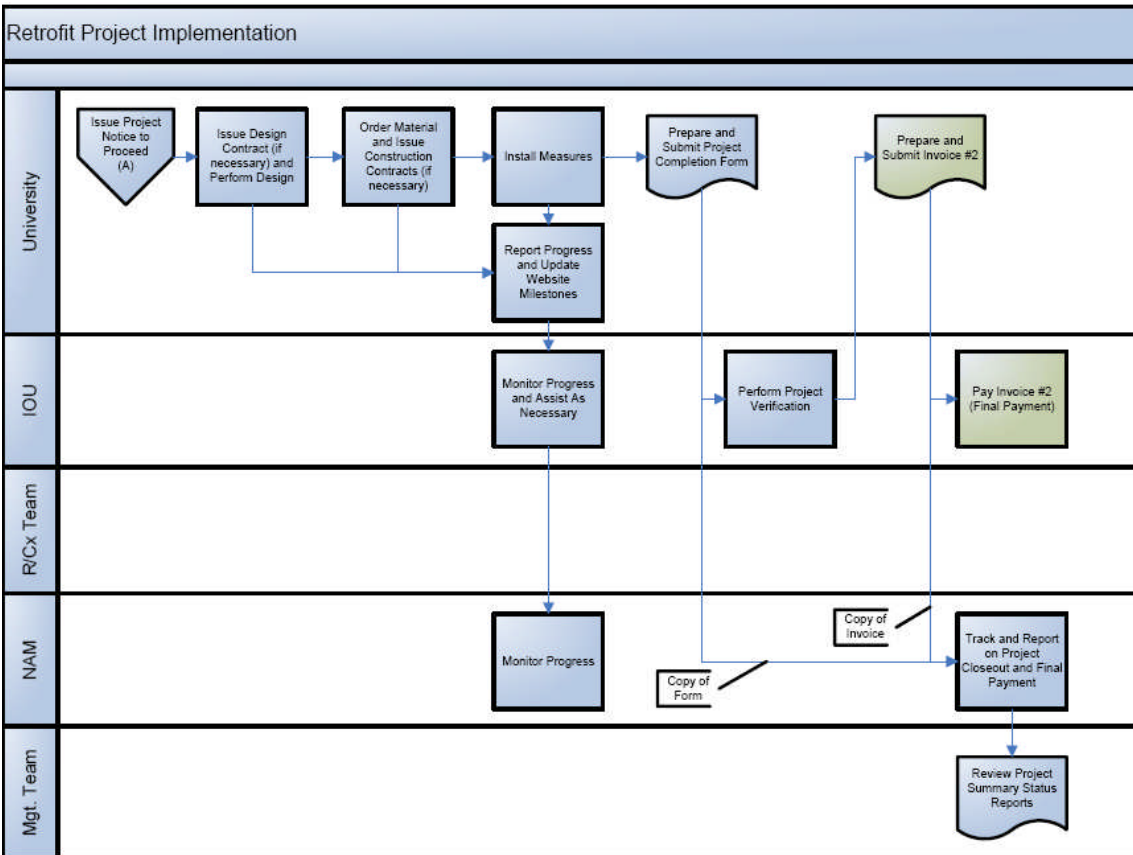
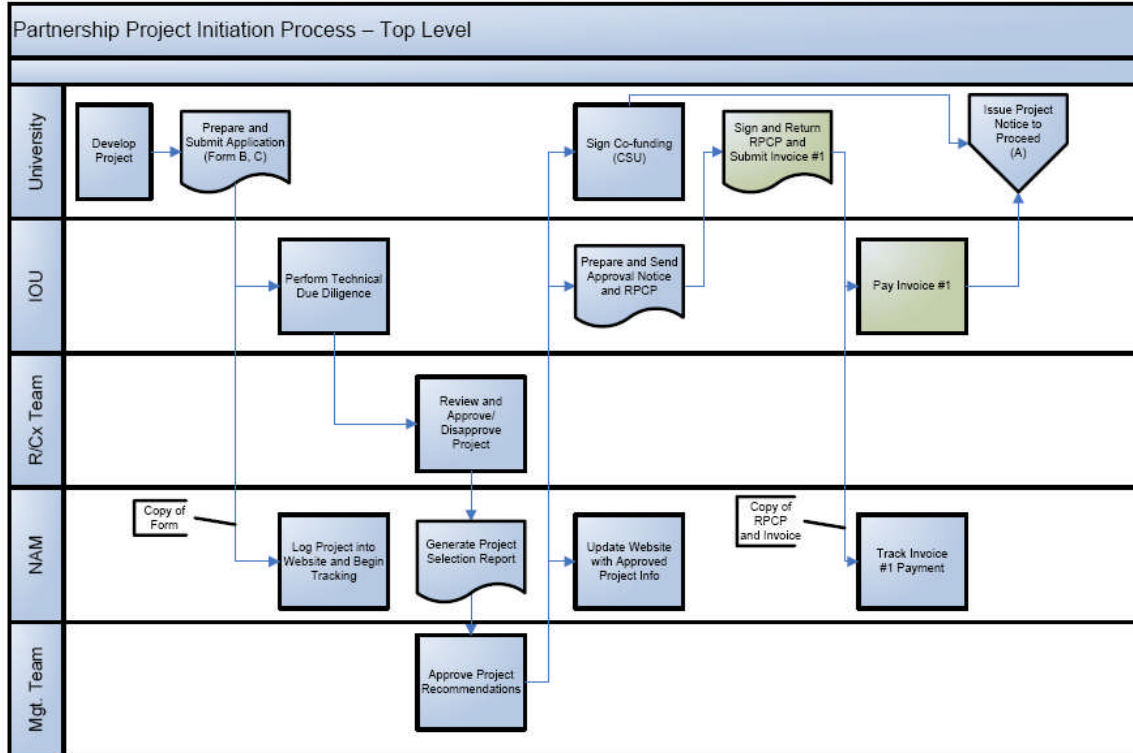
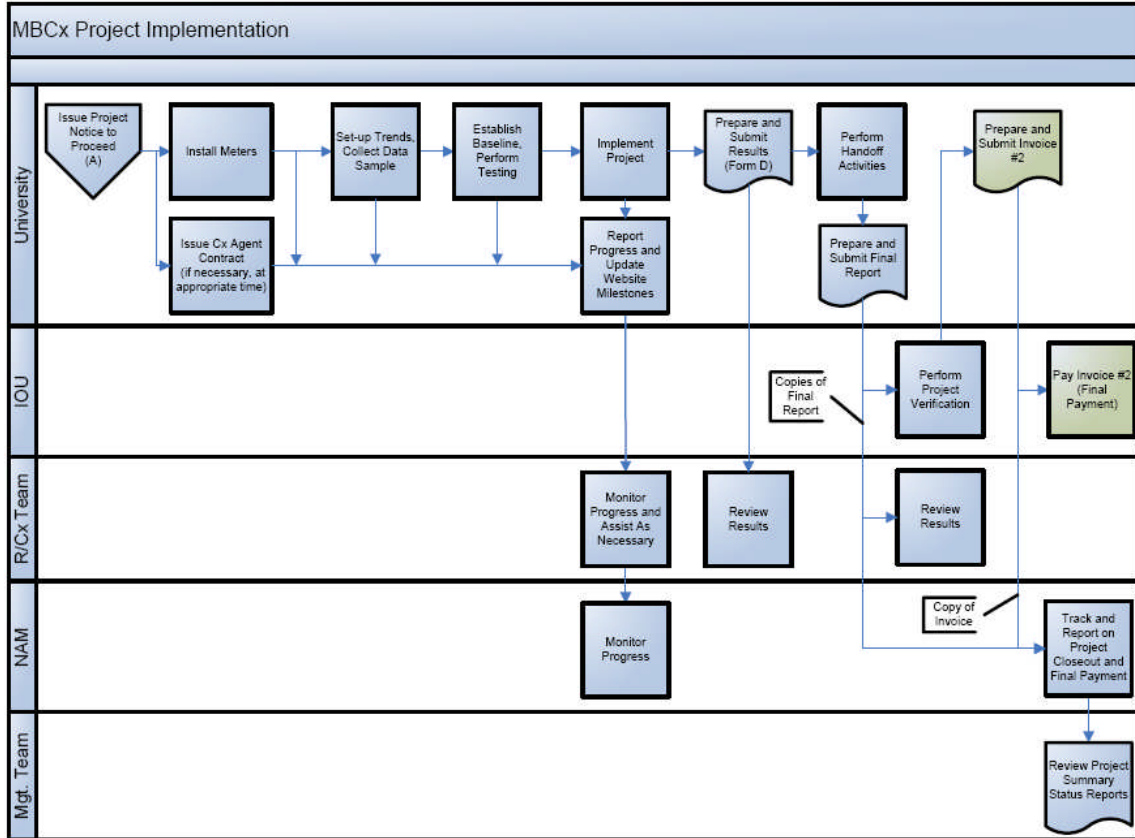


Table E2 – Partnership Project Initiation and Retrofit Project Implementation UC/CSU

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan



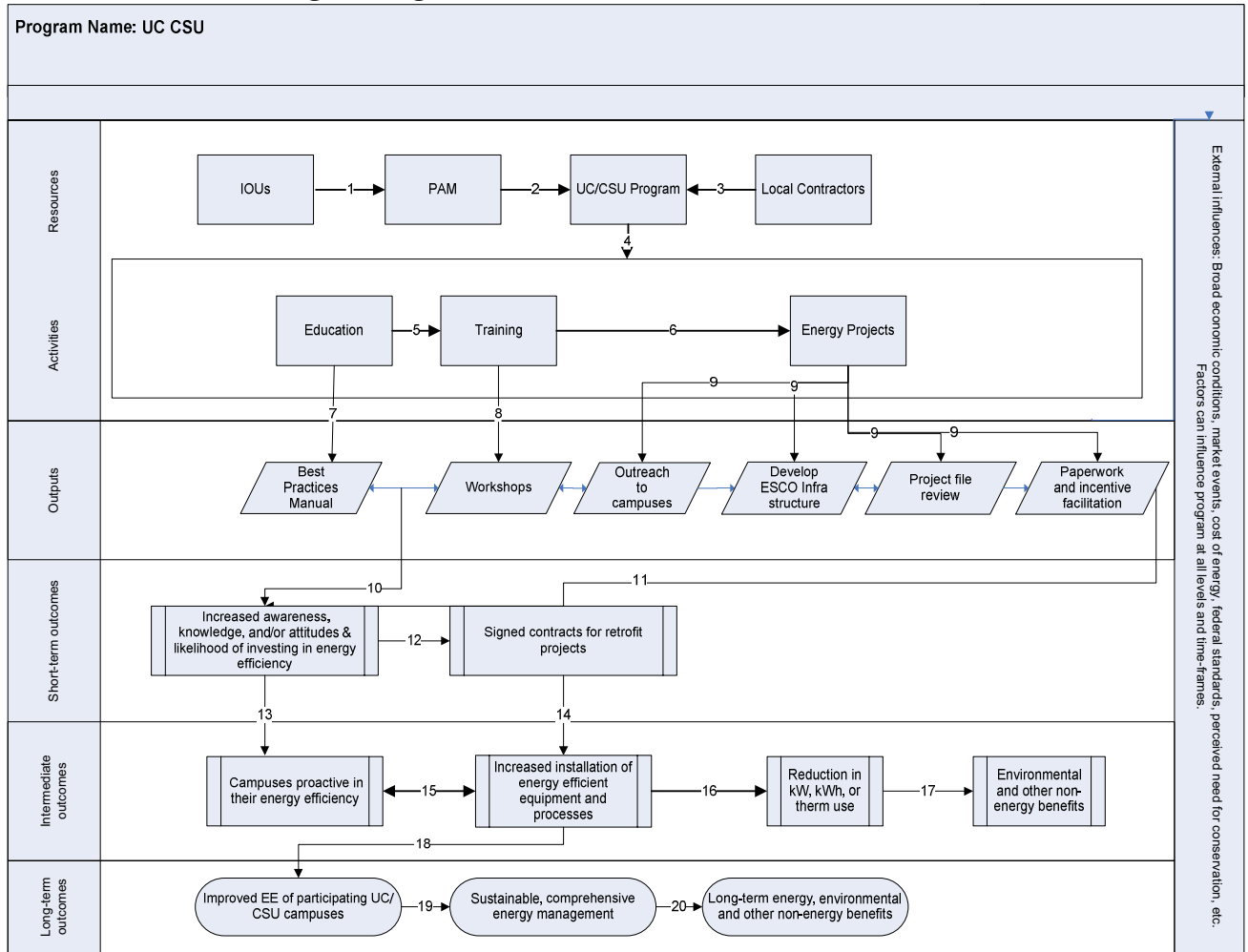
2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan



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Appendix F: UC/CSU Program Logic Model

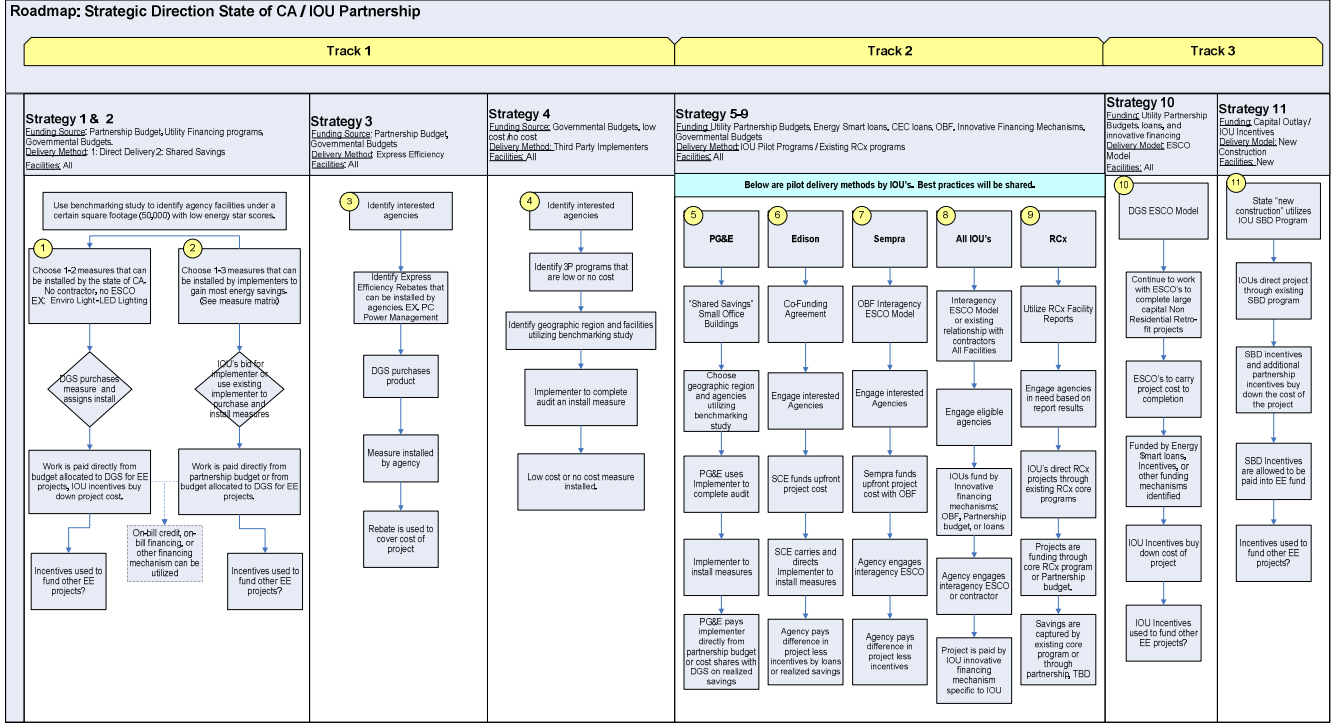
Table F1 – UC/CSU Program Logic Model



Appendix G: State of California Program Diagrams

Table G1 – State of California Roadmap

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan



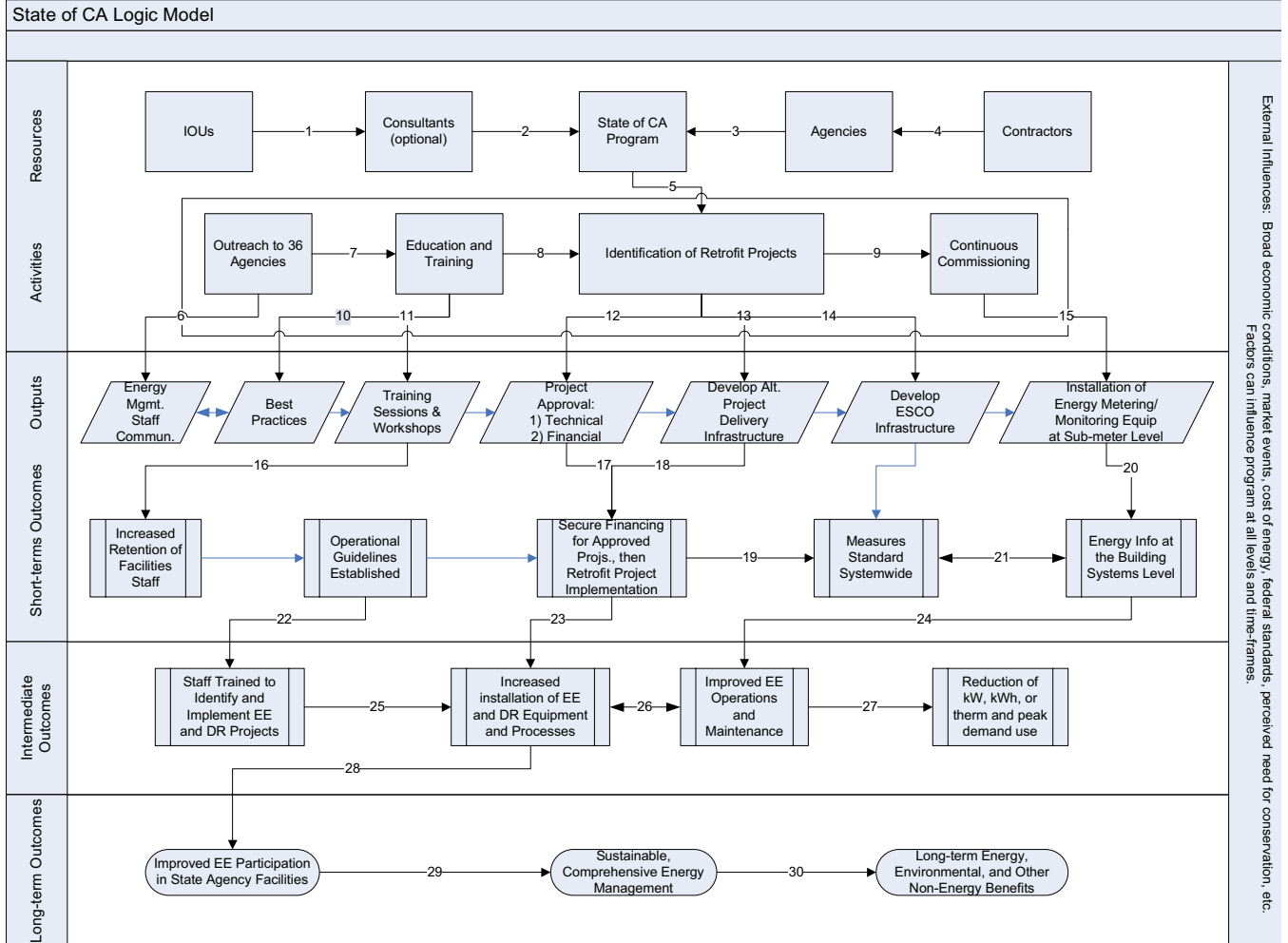
2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

Table G2 – State of California Measure Matrix

State of CA Measure Matrix and Timeline				
0-3 Months		3-6 Months		6-12 Months
IOU's would contract directly with the Manufacturer for Installation - incentive would offset cost of product and installation		IOU's would contract directly with the Manufacturer for Installation - incentive would offset cost of product and installation		Two Paths - Utilize Esco Model or IOU
Technology	Estimated Length of Installation	Technology	Estimated Installation Time	Technology
Vending Machine Controls	2-3 Months	Occupancy Sensors	4 Months	Fluorescent Lighting Replacement
PC Network Software	1-3 Months	CFL replacement	4-5 Months	Outdoor Lighting Replacement
LED Exit Signs	3 Months	Steam Traps	5-6 Months	Package Unit Replacement
Storage Water Heaters	1-3 Months	Server Virtualization	4-5 Months	Adding VFD's
Examples of Agencies to Participate		Domestic Hot Water Boilers	5-6 Months	Replacement of SAN or UPS
DHS		Fume Hood Occupancy Sensors	3-6 Months	Motor Replacement
DOM		Furnaces	3-6 Months	HVAC Maintenance and Coil Cleaning
DDS		Building Envelope (Insulation, Window Treatments)	3-6 Months	Boiler Economizers
DMH		Food Service Equipment Replacement	3-6 Months	Examples of Agencies to Participate
Fairs and Expos	Examples of Agencies to Participate			DHS
Cal Trans	DMV			DMH
BOE	CHP			Courts
DGS	DMH			DDS
State Compensation Ins. Fund	DDS			
	Cal Trans			
	DHS			
	Fairs and Expos			
	DGS			
	Courts			

2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

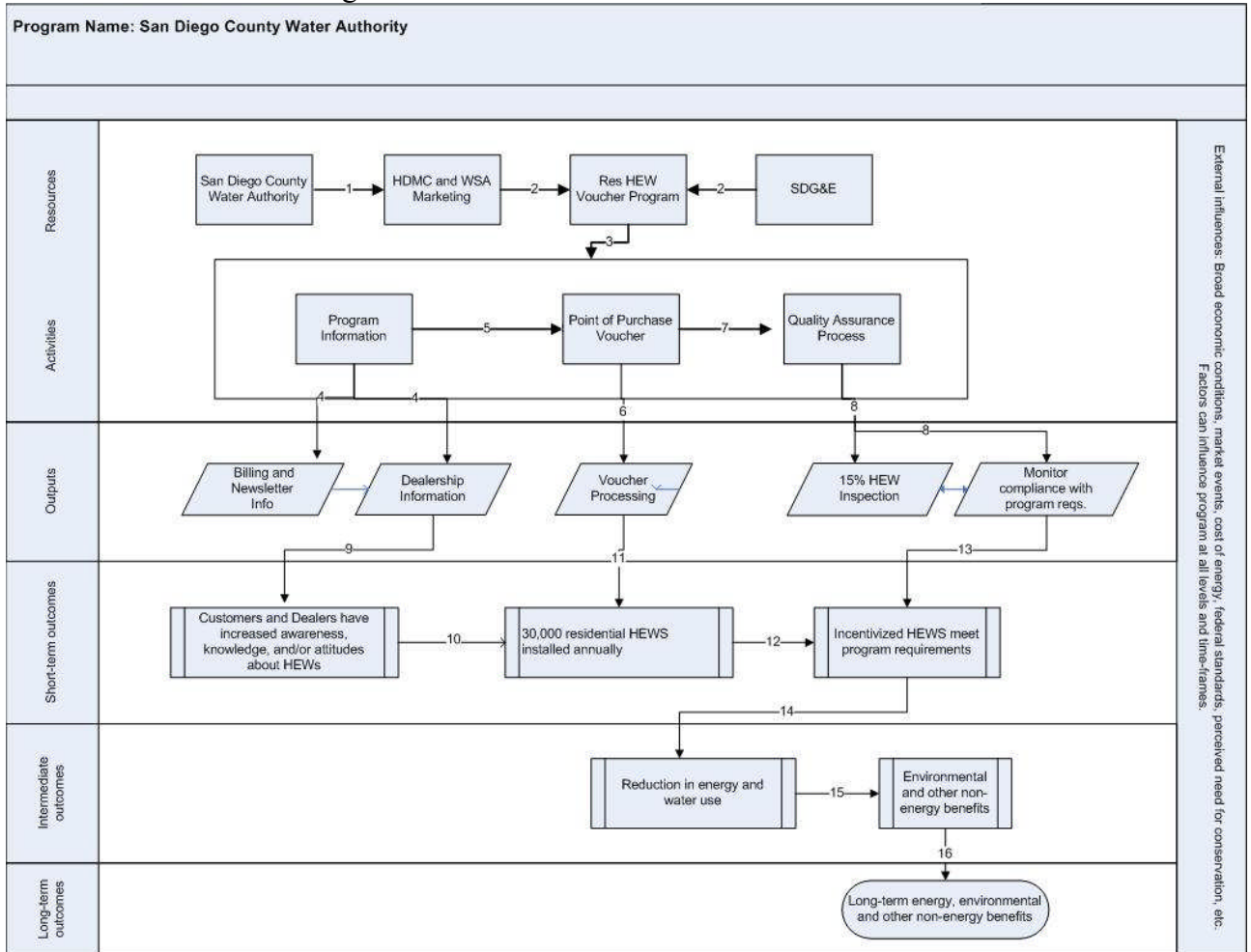
Appendix H: State of California Program Logic Model



2009-2011 Energy Efficiency Programs Local Institutional Partnerships Program Implementation Plan

Appendix I: SDCWA Program Diagrams
Appendix J: SDCWA Program Logic Model

Table J1 – SDCWA Logic Model



**2009-2011 Energy Efficiency Programs
Local Institutional Partnerships
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Appendix K: Integration with the CLTEESP

TBD

**2009-2011 Energy Efficiency Programs
Local Government Partnerships
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1) Program Name and Program ID number

Program Name: Local Government Partnerships
Program ID number: TBD

SDG&E's Local Government Partnership program is complex and multi-dimensional to capture the varied ways that SDG&E works with governments in its 2009-2011 portfolio. First, local governments are a distinct customer segment that operates with their own unique challenges and needs related to energy efficiency. Second, local governments also serve as a delivery channel for specific products and services when they serve as Local Government Partnerships. Finally, local governments have a unique role as leaders of their communities. Increasingly, local governments are interpreting their moral responsibility for community well-being to include reducing greenhouse gas (GHG) emissions, increasing renewable energy usage, protecting air quality, creating green jobs, and making the community more livable and sustainable.

The Government Partnership program is designed to reach local governments in all of their roles. Depending upon the activity, SDG&E may play a different role with the local government, ranging from service provider to supporter to equal partner. Governments increasingly engage in strategic planning for GHG reduction not only in their facilities (represented in the municipal GHG inventory) but also in the community (analyzed in the community GHG emissions inventory). Opportunities increase for partnerships with utilities to meet mutual goals of energy reduction. These governments can not only coordinate and integrate demand-side management opportunities in each sector or market they influence, but also effectively leverage and promulgate low-income offerings.

SDG&E will develop a marketing plan and marketing collateral based on customer segmentation work and research to support outreach efforts. This customer segmentation will help SDG&E develop an understanding of customers' needs and respond accordingly with products and services that customer's want. The segmentation analysis looks at what the customer requires and how the customer is engaged with SDG&E. SDG&E will use many delivery channels and marketing and outreach approaches to effectively reach customers. This will include a team of SDG&E experts and industry professionals, varying by market sub-segment, to deliver integrated offerings to the customer.

2009-2011 Energy Efficiency Programs Local Government Partnerships Program Implementation Plan

2) Projected Program Budget Table

Table 1¹

Program #	SDG&E Local Government Partnership Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
Core Program #1						
	City of Chula Vista #1	\$ 2,855,833	\$ 1,386,006	\$ 1,412,468	\$ -	\$ 5,654,308
	City of San Diego #2	\$ 3,473,074	\$ 243,457	\$ 2,302,258	\$ -	\$ 6,018,789
	County of San Diego #3	\$ 1,844,229	\$ 447,261	\$ 1,331,084	\$ -	\$ 3,622,574
	City of San Juan Capistrano #4	\$ 443,125	\$ 53,781	\$ 73,109	\$ -	\$ 570,015
	Port of San Diego #5	\$ 1,834,740	\$ 219,417	\$ 283,952	\$ -	\$ 2,338,108
	SANDAG (San Diego Association of Governments) #6	\$ 1,216,185	\$ 347,920	\$ 835,465	\$ -	\$ 2,399,570
	ICLEI, LGC #7	\$ 457,418	\$ 10,439	\$ 2,763	\$ -	\$ 470,620
	Emerging Cities #8	\$ 2,270,951	\$ 52,194	\$ 13,816	\$ -	\$ 2,336,962
	TOTAL:	\$14,395,556	\$2,760,475	\$ 6,254,915	\$ -	\$ 23,410,946

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

Program Budget by Core Programs						
Program #	Main Program Name	Government Facilities*	Strategic Plan	Core Programs	Program Budget**	Total (including Incentives)
	City of Chula Vista #1	\$2,411,777	\$2,219,894	\$2,288,352	\$5,654,307	\$6,920,023
	City of San Diego #2	\$7,115,163	\$1,546,765	\$1,090,944	\$6,018,789	\$9,752,872
	County of San Diego #3	\$3,139,001	\$895,444	\$1,235,497	\$3,622,574	\$5,269,942
	City of San Juan Capistrano #4	\$828,288	\$102,820	\$73,598	\$570,015	\$1,004,706
	Port of San Diego #5	\$3,593,253	\$277,140	\$353,478	\$2,338,109	\$4,223,871
	SANDAG (San Diego Association of Governments) #6	\$0	\$1,686,988	\$712,582	\$2,399,570	\$2,399,570
	ICLEI, LGC #7	\$0	\$470,620	\$0	\$470,620	\$470,620
	Emerging Cities #8	\$1,967,165	\$1,402,177	\$0	\$2,336,961	\$3,369,342
	Total	\$19,054,646	\$8,601,848	\$5,754,451	\$23,410,945	\$33,410,945

* These budgets are incentives forecasted for Government Facilities but are included in the Commercial programs incentives budgets. These budgets are noted in Table 7.1 as "Integration Budget Allocated to Other Programs (if Applicable)".
These programs are considered Non-resource programs.
**The "Strategic Plan" and "Core Program" budgets total to the LGP budgets.

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Local Government Partnerships Program Implementation Plan

3) Projected Program Gross Impacts Table

Table 2

Program #	SDG&E Local Government Partnership Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	Core Program #1			
	City of Chula Vista	600,000	150	15,000
	City of San Diego	4,900,000	1,250	41,500
	County of San Diego	4,000,000	775	75,000
	City of San Juan Capistrano	50,000	13	200
	Port	810,000	203	3,450
	SANDAG	NA	NA	NA
	ICLEI	NA	NA	NA
	New Cities	50,000	13	200
	TOTAL:	10,410,000	2,404	135,350

Note: Partnerships are considered non-resource programs and serve as a delivery mechanism for IOU programs.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Element Description and Implementation Plan

This LGP Master PIP describes each of the program elements listed below. The Master PIP discusses the major program elements of Government Facilities, California Long Term Energy Efficiency Strategic Plan (Strategic Plan) Support, and Core Program Coordination in an overarching context in sections 4 - 6. Following the Master PIP discussion are sub-PIPs (which also cover sections 4 - 6) for the additional unique program elements of Emerging Cities and for each of the individual Local Government Partnerships. The sub-PIPs also discuss the three major program elements (Government Facilities, Strategic Plan Support, and Core Program Coordination). The sub-PIPs for individual LGPs provide details regarding any targeted or distinct aspects of the three main elements as they relate to that particular LGP.

Program Element	
A. Government Facilities	
	A1 – Retrofit of County and Municipal Buildings
	A2 - Retro-commissioning
	A3 - Integrating Demand Response
	A4 - Technical Assistance
	A5 - On-Bill Financing
B. Strategic Plan Support	

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	B1 - Code Compliance
	B2 - Reach Code Support
	B3 - Guiding Document Support
	B4 - Financing for the Community
	B5 - Peer to Peer Support
C. Core Program Coordination	
	C1- Outreach Education
	C2 - Third Party Program Coordination
	C3- Technical Assistance
D. Emerging Cities	
E. Fluorescent Lamp Recycling Partnerships (Unique Program Element) – <i>SDG&E is not offering this program</i>	
F. Individual Local Government Partnerships	

**2009-2011 Energy Efficiency Programs
Local Government Partnerships
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Element A - Government Facilities

4 – Program Element Description and Implementation Plan – Element A - Government Facilities

A. Government Facilities	
	A1 – Retrofit
	A2 - Retro-commissioning
	A3 - Integrating Demand Response
	A4 - Technical Assistance
	A5 - On-Bill Financing

Overview

The Government Facilities element will be implemented by most of the unique individual Local Government Partners (LGPs). This section (4A – 6A) describes the standard overview, rationale, outcomes, and barriers associated with the Government Facilities element by an LGP. If an individual LGP has a distinctive or targeted approach to Government Facilities, that LGP’s individual PIP will contain additional information. The individual LGPs will primarily target local government facilities/sites that are owned or leased by public agencies including city halls, administrative offices, recreation centers, fire stations, libraries.

Individual LGPs play an important role in assisting local governments (cities, counties and special districts) with retrofitting the facilities that they own and operate to achieve short and long term savings. While all local governments have access to SDG&E programs and incentives to save energy, SDG&E’s Government Partnership program will work closely with the LGPs to foster government facilities’ energy savings and to place these projects in the context of sustainability and climate change initiatives.

Approaching efficiency in government facilities in this way not only achieves short and long term savings, it also demonstrates a commitment to efficiency to the local government’s constituents and the community at large. This, in turn, enables government partnerships to become champions for energy efficiency programs and other utility programs to further reduce usage in their communities. Additionally, a comprehensive approach to government facilities will be an important step to addressing Assembly Bill 32 (AB32) and other statewide or local GHG reduction requirements.

The Emerging Cities program will be available to support smaller cities with facility audits and technical assistance that support and empower emerging cities to achieve efficiency in their own facilities.

This program element will include five sub-elements: Government Facilities Retrofits, Government Facilities Retro-commissioning, Integrated Demand Response, Technical Assistance, and On-Bill Financing.

**2009-2011 Energy Efficiency Programs
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A1 - Retrofits: Local Government Partnerships which choose to include a Government Facilities Retrofit element in their programs will achieve energy savings by providing technical, financial, managerial and administrative support to the government actor (usually a facilities manager) who initiates and implements energy-efficiency retrofit projects. Sometimes this entity is the same as the Partner, and other times it is a different entity. The degree of assistance provided will be tailored to each agency’s need, taking into account energy savings potential, cost effectiveness, level of commitment, available funds and in-house technical expertise. This program element will be leveraged by and integrated with other programs such as retro-commissioning, demand response and self-generation as appropriate to achieve comprehensive impacts while minimizing lost opportunities.

Energy savings will be based on measures installed, e.g., retrofitted. Measures include, but are not limited to, the following:

Measure End Use Types Planned
Comprehensive Lighting
HVAC
Motors
Water Heating
Pumps
Other

A2 - Retro-commissioning (RCx): Local Government Partnerships which choose to include a Government Facilities Retro-commissioning element in their programs will provide similar services as those described above for retrofits. RCx is a systematic process for identifying less-than-optimal performance in an existing building’s equipment, lighting, and control systems and making necessary adjustments. Whereas retrofitting involves replacing outdated equipment, RCx focuses on improving the efficiency of what is already in place. As mentioned in A1, by bundling RCx with retrofits and other comprehensive options, the customer will optimize their efficiency and get the best bang for the buck.

Measures include but are not limited to the following:

Measure End Use Types Planned
Comprehensive Lighting
HVAC controls and tune up
VFDs
Water Heating
Other

A3 – Integrating Demand Response: LGPs will determine demand response (DR) potential in the course of comprehensively evaluating sites for energy efficiency retrofit and retro-commissioning opportunities. DR will be integrated with energy efficiency and referrals to DR programs will be made as appropriate. In addition to DR programs, partnerships will continue to identify self-generation opportunities. SDG&E will work with the Partnerships to ensure that

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comprehensive packages are made available to the local governments within that Partnership, including, for example a menu of DR options. The LGP will promote offerings through an integrated marketing collateral and sales approach. With additional market segmentation and feedback from customers, the utilities will adjust approaches in order to offer the combination of programs to best meet the varied needs of customers. The goal is to integrate offerings through building auditing and assessment, marketing materials and the strategic sales approach.

A4 - Technical Assistance:

While SDG&E makes technical assistance available to all governments, the LGPs will have targeted resources to provide technical assistance to the agencies within each LGP's geographic area. This assistance is an integral component of LGP administered energy efficiency programs and may take the form of engineering audits, equipment specifications, engineering and cost-effectiveness calculations, field inspections, and equipment testing and analysis, and is an integral component of LGP-administered energy efficiency programs. Partnerships will provide technical support for developing, packaging and completing energy-efficient retrofit projects. Additionally, SDG&E will provide partnerships with training and access to benchmarking technology such as the USEPA/Energy Star Benchmarking tool to identify the government facilities with the highest potential. Partnerships will also provide resources for city staff training and certification in the following; Building Operator Certification, Certified Energy Management, LEED accreditation, Green Point rated and other applicable trainings. This training will serve to build knowledge of energy management and resource conservation within the LGP.

A5 - On-Bill Financing: On-bill financing (OBF) may be offered to GPs. In addition to OBF, LGPs may utilize other financing options such as CEC loans or municipal bonds as well as other state/federal grant programs. The Emerging Cities program will incorporate opportunities for On Bill Financing in the audit information provided to the emerging cities.

Target Audience

A1 – Retrofit

The target audience is Government Facilities, which can include municipal administration buildings as defined by NAICS 3 such as:

- City and County Libraries
- Fire Stations
- County Medical Hospitals
- County Correctional Facilities
- Police Stations
- Teen Centers
- Recreation Centers
- City Museums
- Animal Shelters
- Public Works Department Facilities
- Bridges and Highways

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- Water Agencies
- Transit Agencies
- Streetlights

A2 – Retro-commissioning

Same as A1

A3- Integrating Demand Response

Same as A1

A4 – Technical Assistance

Technical assistance associated with government facility retrofits will be targeted at the appropriate city staff including Department of Public Works, Energy Office, Department of Building Inspection, Department of the Environment, etc. While each partnership might vary slightly, the key target audience will be energy managers. The Emerging Cities program will establish additional peer-to-peer networks to facilitate sharing of best practices via the SANGAG partnership and other local government associations.

A5 – On-Bill Financing

Once a local government OBF program is created, any municipality associated with a Government Partnership would be a candidate for OBF and other financing assistance.

Implementation

A1 – Retrofit

The LGPs will offer a comprehensive portfolio of energy efficiency programs that target municipal facilities. By partnering with local governments, Partnerships are well positioned to promote energy efficiency in their communities. Retrofit program offerings will include energy audits, lighting assessments and non-lighting system options, calculated and prescriptive rebates, and direct installation of a comprehensive portfolio of measures. To promote this program element, Partnerships will distribute throughout their networks marketing materials and information that is well coordinated with utility and statewide marketing plans. The Partnerships will also leverage their community relationships as well as community based organizations and associations. Partnerships may also directly market to municipal and special district staff and engage key stake holders within the local government and the community. Partnerships will work to achieve both immediate and comprehensive, long-term energy savings. Energy efficiency strategies and measures will be coordinated throughout municipal departments to streamline implementation. Partnerships will implement energy efficiency by providing comprehensive assessments, conservation measures and training and education to the local governments.

A2 – Retro-commissioning (RCx)

LGPs with a Government Facilities Retrofit element may choose to include a Government Facilities RCx program element. Such LGPs will perform field-based functional tests at the building system and/or building subsystem level to identify RCx opportunities that will deliver energy and demand savings. Each Partnership will tailor minimum criteria (as developed by

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SDG&E) to identify RCx projects that will deliver the most savings. Each potential project will be assessed by technical feasibility and cost effectiveness. Preliminary investigation of a site's potential will include on-site equipment testing, monitoring, and/or verifying proper operation and calibration of a sample of the building systems and/or building sub-systems to be included in the proposed RCx projects.

A3- Integrating Demand Response

In evaluating opportunities in government facilities, Government Partnerships will also determine demand response potential. LGPs will make referrals to demand response programs as appropriate. In addition to demand response programs, partnerships will continue to identify self-generation. Refer to the Integration PIP for more detailed information.

A4 – Technical Assistance

Assistance will be tailored to each agency's needs, scaled to the potential energy savings and level of commitment of the participating agency, and strategically applied to leverage the most savings from available resources. Technical assistance may also include education and training, support for peer networking to support best practices, team building and staff training.

A5 – On-Bill Financing

Refer to the on-bill financing section included in Testimony Chapter 3

5 - Program Element Rationale and Expected Outcome – Element A - Government Facilities

a) Quantitative Baseline and Market Transformation Information

Market Transformation (MT) metrics proposed in Tables 3 and 4 are preliminary. The proposed metrics are meant to initiate a collaborative effort to elaborate meaningful metrics that will provide overall indicators of how markets as a whole are evolving. MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments.

Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”² The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies³.

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6)

² California Public Utilities Commission Decision, D.98-04-063, Appendix A.

³ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>

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program delivery mechanisms, 7) target populations, 8) attribution of causal relationships, and 9) market structures⁴. Markets are social institutions⁵, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains⁶ as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress⁷. According to York⁸, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation⁹. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory¹⁰, with the state of a market usually characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span

⁴ Peloza, J., and York, D. (1999). “Market Transformation: A Guide for Program Developers.” Energy Center of Wisconsin. Available at: <http://www.ecw.org/ecwresults/189-1.pdf>

⁵ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.eceee.org/conference_proceedings/eceee/2001/Panel_2/p2_7/Paper/

⁶ Sebald, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

⁷ Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings*.

⁸ York, D., (1999). “A Discussion and Critique of Market Transformation”, Energy Center of Wisconsin. Available at <http://www.ecw.org/ecwresults/186-1.pdf>.

⁹ Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). “Market Transformation: Substantial Progress from a Decade of Work.” American Council for an Energy-Efficient Economy, Report Number A036. Available at: <http://www.eceee.org/pubs/a036full.pdf>

¹⁰ Rogers (1995) *Diffusion of Innovations*, 5th Ed.

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decades¹¹. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects¹². The ability to make causal connections between these market transformation effects and any particular program's activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and foremost, they need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)¹³" The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts¹⁴, but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions¹⁵. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the utilities look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers¹⁶ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

The metrics and baselines described below in Tables 3 and 4 are presented for the purposes of starting the much-needed discussion between all key participants. These are suggestions,

¹¹ Example in bottom chart of this graphic from NYTimes:

<http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html>

¹² Sebold et al (2001) p. 6-5,

¹³ Peters, J.S., Mast,B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume I.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

¹⁴ CPUC (2008) Strategic Plan, p. 5.

¹⁵ Nadel, Thorne, Saches, Prindle & Elliot (2003).

¹⁶ Pelosa & York, (1999).

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intended to allow key participants to pilot-test processes for establishing baseline metrics, tracking market transformation progress, and for refining evaluation tools. Early trial of these evaluation metrics will reveal any gaps in data tracking so that we may refine our processes before full-scale market transformation evaluations take place.

The set of metrics we selected is intentionally a small set, for several reasons. First, as mentioned, the full set of metrics and baselines need to be selected by key participants. Second, we anticipate that market share data for many mid- and low-impact measures will be too sparse to show MT effects and not cost-effective to analyze. Third, we selected core measures and metrics that would both be indicative of overall portfolio efforts. These measures are also likely to be offered on a broad level by other utilities, providing a greater base of sales and customer data that could be analyzed for far-reaching MT effects. Therefore, for the Local Government Partnerships the following approach to quantitative baseline and market transformation information is presented as follows. The utilities recommend development of a baseline, and tracking the number of cities, counties and government institutions that have plans for written energy efficiency provisions. Such a metric relates directly to the Strategic Plan (Goal 12.3.4) in terms of measuring progress towards 50% plans for sustainability.

In addition, we propose tracking community adoptions of new construction model reach codes, both residential and nonresidential. This metric aligns with the Strategic Plan (Goal 12.3.1). In addition to being a direct indicator of support by local government partnerships, community adoptions of model reach codes are of strategic interest to the CPUC. A proliferation of dissimilar reach codes would confuse the market relative to building codes and incentive programs. Model reach codes to be developed by Codes and Standards would allow energy efficiency efforts across partners to be aligned with a clear target for each climate zone. As discussed in the Local Government PIPs, the IOUs intend to work closely with partners in establishing baseline code compliance levels and pushing for model reach codes.

With this discussion in mind, IOUs propose the following metrics for this sector:

Table 3

	Baseline Metric	
	Metric A	Metric B
Energy Efficiency Action Plans	Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans,	

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	Baseline Metric	
	Metric A	Metric B
	and General Plans with energy or climate elements.	
Model Reach Codes		In coordination with Codes and Standards, develop a baseline inventory of cities and counties within the IOU territory with adopted model reach codes

b) Market Transformation Information

As stated above, market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

As a consequence, it is not appropriate to offer more than broad and general projections. Any targets provided in the following table are nothing more than best guesstimates, and are subject to the effects of many factors and market forces outside the control of program implementers.

Table 4

	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time

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In coordination with Codes and Standards, develop a baseline inventory of cities and counties within the IOU territory with adopted model reach codes	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time
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c) Program Design to Overcome Barriers:

Refer to individual partnership PIP section.

d) Quantitative Program Objectives:

Table 5

Program/Element	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1	TBD	TBD	TBD
Target #2	TBD	TBD	TBD
Target #3	TBD	TBD	TBD
Target #4	TBD	TBD	TBD

Refer to individual partnership PIP section.

6 - Other Program Element Attributes- Element A - Government Facilities

Other Program Element Attributes	Government Facilities
a) <u>Best Practices</u> : Describe why program element approach constitutes “best practice” or reflects “lessons learned” in market strategies, program design and/or implementation techniques, or past experience. Provide references where available.	The approach to Local Government Facilities constitutes a best practice because it incorporates the lessons learned from past program cycles. SDG&E has seen that, as local governments become champions for energy efficiency in their communities, there is an increased focus on leading by reducing energy use in municipal facilities.

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Other Program Element Attributes	Government Facilities
<p>b) <u>Innovation</u>: Describe any unique or innovative aspects of program element not previously discussed. Why is this innovative?</p>	<p>The Government Facilities program element incorporates innovative aspects of program design, as discussed above. These include benchmarking, community finance, and framing the facilities work within a climate action framework. Government Partnerships have used innovative solutions to address barriers. In using benchmarking technology and other technical assistance, Government Partnerships plan to prioritize the facilities that are best suited for retrofits. Additionally, each partnership will work to address potential barriers by sharing solutions and best practices. The Partnerships program will explore options for addressing financial barriers (e.g., support for California Energy Commission (CEC) loans and other funding opportunities) and support individual Partners that want to pilot new approaches, such as earmarking energy savings in a separate fund to ensure that savings do not go back into the general fund.</p>
<p>c) <u>Interagency Coordination</u>: Describe any interagency coordination with the ARB, CEC on PIER or Codes and Standards; non-utility market initiatives; energy efficiency market forces, opportunities and trends; and timeline by which market segment will be “transformed” or other aspects of the program.</p>	<p>The Government Partnerships program will foster coordination in relation to government facilities efficiency, encouraging LGPs to make use of coordination resources including:</p> <ul style="list-style-type: none"> ○ Participate in the CEC loan program for governments. ○ CEC's Public Interest Energy Research (PIER) program ○ "EPA Energy Star Low Carbon IT Campaign Ally" with their power management savings program. ○ Work with the ARB as well as other agencies to co-market materials, co-brand programs, etc.

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Other Program Element Attributes	Government Facilities
<p>d) <u>Integrated/coordinated Demand Side Management</u>: Describe how program will achieve integrated or coordinated delivery of all DSM options, as well as LIEE and WET. (If this is an integral part of the program element and fully covered under #4 note that here.) Describe in detail how program will achieve integrated or coordinated delivery of all DSM options (energy efficiency, demand response, and onsite generation) where applicable including integrated program design and delivery, shared budgets, program evaluation, and incentive mechanisms that promote greater integration of DSM resources. Provide a complete description for all the technologies, including integration supporting technologies that will be included in the program. If the program does not include all DSM options as noted above, briefly provide an explanation for a more limited subset of DSM technologies. Utilize Attachment 5A to highlight any shared or leveraged budget categories and amounts (admin, incentives, ME&O, and other applicable categories).</p>	<p>Partnerships will achieve coordinated delivery of DSM options. Some LGPs will achieve integration of all elements, while others will only integrate a few. The integrated elements will include:</p> <ul style="list-style-type: none"> • Integrated energy audits will be offered to government facilities that show savings potential and are willing to commit to the additional time and financial investments. • Emerging Technologies and CEC-PIER collaboration is expected to include pilot projects and market acceleration assistance for market-ready products in the general categories of day lighting, lighting, HVAC, controls, and building envelope improvements. • Commissioning and retro-commissioning services will be continued to segment customers. • Demand response opportunities will be targeted in the larger facilities, particularly as part of monitoring-based retro-commissioning efforts where the controls to facilitate demand response efforts would be installed. • Coordination with LIEE to provide services to middle-income (“just above LIEE”) customers.
<p>e) <u>Integration across resource types</u> (energy, water, air quality, etc): If program aims to integrate across resources types, provide rationale and general approach. (If this is an integral part of the program element and fully covered under #4 note that here.)</p>	<p>Government Partnerships will encourage conversations with other resource agencies including water, air quality and transportation authorities. The partnerships will enable individual LGPs to coordinate with other resource programs, such as water, waste, in achieving efficiencies in government facilities. The Emerging Cities program will play an important supporting role, especially in sharing best practices among LGPs.</p>
<p>f) <u>Pilots</u>: Describe any pilot projects that are part of this program (If this was fully covered under #4, note that here.)</p>	<p>Some of the Pilots may address government facility efficiency. Smaller pilots may be implemented by individual LGPs as part of their partnership activity. The Government</p>

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Other Program Element Attributes	Government Facilities
	partnership team intends to do an assessment of government facilities and may pilot new approaches as a result of this assessment.
g) <u>EM&V</u> : Describe any process evaluation or other evaluation efforts that will be undertaken by the utility to determine if the program is meeting its goals and objectives. Include the evaluation timeframe and brief description of scope, as well as a summary of specific methodologies, if already developed. If not developed, indicate the process for developing them. Include reference to tracking databases that will be used for evaluation purposes.	A process evaluation will be conducted by a third party evaluator. The evaluation will assess communication and coordination effectiveness between partners as well as satisfaction with the service and increased awareness of energy efficiency opportunities. A combination of interviews and focus groups will likely be used to collect data. The evaluation is expected to build upon results found in the recently completed process evaluation for PY2006 to 2008.

Element B - Strategic Plan Support

4 – Program Element Description and Implementation – Element B - Strategic Plan Support

B. Strategic Plan Support	
	B1 - Code Compliance
	B2 - Reach Code Support
	B3 - Guiding Document Support
	B4 - Financing for the Community
	B5 - Peer to Peer Support

Overview

The Strategic Plan Support element will be implemented primarily through the unique program elements of the Emerging Cities coordinating with the SANDAG partnership and some components of the individual partners which are specifically designed to actualize the vision set forth in the long term strategic plan: California’s local governments will be leaders in using energy efficiency to reduce energy use and global warming emissions both in their own facilities and throughout their communities.

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Individual LGPs will also play an important role in furthering the strategic plan. This section (4B – 6B) describes the standard overview, rationale, outcomes, and barriers associated with an individual LGPs implementation of the Strategic Plan support element. If an individual LGP has a different or targeted approach to Government Facilities, that LGP's individual PIP will contain additional information.

It is important to note that individual Partners vary widely in terms of how appropriate and/or ready each Partner is to undertake activities related to supporting the strategic plan. The functions for strategic plan support are quite distinct (from codes to policy to finance). Given the diversity of entities serving as the individual LGP, some Partners can accommodate all of the distinct roles required for strategic plan support while others cannot.

The partners that directly represent a government entity will have different responsibilities and capabilities than those partners that represent a regional group, such as SANDAG. For example, governments are appropriate entities to enact policies including stretch codes, GHG targets, and general plan updates, but regional groups are better positioned to perform broader functions such as developing regional plans. In cases where the individual Partner does not function as a leader for some or all of the strategic plan initiatives (codes, climate plans, financing, and peer support), the Partner can often still play a supporting role.

Partners exhibit varying readiness to engage in strategic plan activity. Some partners have very limited staff and budgets and may be engaging in energy efficiency and sustainability issues for the first time. Other partners have been working on these issues for several years and are among the leading municipalities in the country in their sustainability efforts. Therefore, the approach to achieve strategic plan initiatives will need to be tailored to suit the individual needs and capabilities of each Partner.

Through the Emerging Cities program and SANDAG partnership, SDG&E will provide an integrated suite of program offerings geared toward strategic plan support, including tools and technical assistance, to all cities in the service area. Emerging Cities, coordinating with SANDAG, will provide a roadmap developing a starting point for all cities in SDG&E territory, including those with and without formal partnerships, that are interested in engaging in GHG reduction and energy efficient activities to reach objectives outlined in the Strategic Plan.

Local Government Partnerships will also implement, to varying degrees, aspects of the Strategic Plan Support element. The degree will depend on how far along the energy efficiency learning curve the partnership is.

The following section catalogs approaches and techniques that LGPs may choose to utilize to make constructive use of local government policies and services to promote community sustainability.

B1 - Code Compliance

The Code Compliance sub-element will be implemented primarily through the Codes and Standards program, as described in the Codes and Standards PIP. Some individual LGPs will take action related to code compliance by engaging in a range of activities that will be

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coordinated with the Codes and Standards program. LGP Code Compliance activities may include training local government staff that is charged with code compliance in coordination with SDG&E's Codes and Standards program or through training and education classes. LGP activity may also include developing and implementing certification programs for local inspectors and contractors. LGPs may assist with marketing in coordination with SDG&E and statewide marketing activities, including advertising training opportunities to relevant trades, raising awareness of current codes among business and residential customers and encouraging compliance. Local Governments often have access to constituents through existing relationships and can use those routes to enhance or complement other energy efficiency marketing activities.

Please refer to the Codes and Standards PIP for further information.

B2 - Reach Code Support

The Reach Code Support sub-element will be implemented primarily through the Codes and Standards program. Some individual Partnerships may choose to include Reach Code activities to promote local codes that exceed Title 24 requirements. Again, all reach code support activity will be coordinated with the Codes and Standards program. Partnerships that include Reach Code activities could perform activities that range from training local government staff regarding adoption and implementation of model reach codes to establishing expedited permitting and entitlement approval processes, fee structures and other incentives for green buildings and other above-code developments. Examples could include green building standards for new construction and retrofits/retro-commissioning or carbon offset reduction programs that exceed Title 24. SDG&E will provide training through its Education and Training program. LGPs may attend training and/or market the training to relevant trades, in coordination with utility and statewide marketing activities.

Please refer to the Codes and Standards PIP for further information.

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B3- Guiding Document Support

This program element will help government's complete GHG emissions inventories and climate action plans in accordance with the process developed by ICLEI and help develop guiding documents that effectively and methodically reduce community energy consumption and GHG emissions. Those partnerships that include this program element could perform activities that range from quantifying a municipality's baseline energy use, to developing a climate action plan to reduce energy use to developing policies to be incorporated into a general plan.

Those partners who have not yet developed their baseline energy use could include activities to inventory their municipal operations and community GHG emissions that would support strategic planning to increase use of SDG&E energy efficiency, demand response, renewables, and other applicable programs. Advanced Partnerships and the individual Partners with a more regional focus could develop local policy documents that could include energy elements in general plans, energy efficiency recommendations for new developments, energy-efficient equipment purchasing guidelines, community climate action plans, and analyses for energy conservation codes and ordinances targeting the private sector.

Advanced Partnerships and the individual Partners with a more regional focus may assist municipalities within their jurisdictions with energy policies. For example, they may develop Community Energy Policy Packages for adopting and implementing a local energy initiative. This package may include draft policy language, a recommendation for legal authority (ordinance versus policy document versus administrative mandate); guidance and checklist for successful implementation (including assigning policy implementation to a sympathetic city department); staff report guidelines and discussion on implementations issues (e.g., how to frame objectives, scope, triggering mechanisms, requirements, and enforcement strategies). These services may also include technical assistance for agencies pursuing adoption of local policies, and may include estimating local savings impacts, providing supporting calculations or analysis of staff reports, etc.

B4 - Financing for the Community

Some individual LGPs will implement some aspect of financing as part of their activity. A new program element will be offered to Partners to help governments explore financing opportunities such as low-interest loans through the California Energy Commission (CEC). The CEC's Energy Efficiency Financing Program provides financing for schools, hospitals and local governments through low-interest loans for feasibility studies and the installation of energy-saving measures. For those partners who include this program element, the Partnership could provide project financial analysis assistance to quantify energy efficiency project economics in terms understood by local government decision makers, and could assist facility engineering staff in presenting projects for approval. Assistance may include providing life cycle cost analysis and illustrating how energy efficiency investments can be structured to pay for themselves, while also freeing up resources through lower future facility operating costs.

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B5 – Peer to Peer Support

Individual LGPs may participate in peer sharing forums and the quarterly partner networking events set up by SDG&E. Individual LGPs may also set up their own networks for the governments within their area. LGPs provide an opportunity to raise awareness among local government staff and create connections across departments to lay the groundwork for the long-term change that is laid out in the strategic plan. Peer to peer exchange is one method for building local government energy efficiency knowledge and capability. LGP peer to peer exchange also may benefit utility and third party implementation staff where local government staff provides information about their local community needs and the inner workings of their local government.

Information sharing can occur within each Partnership (across Partnership members), across local government staff and across Partnerships. Peer to peer support will help local governments develop energy efficiency policy and program initiatives to promote energy efficiency within the local government community. Those Partners who choose to include this element in their program could utilize a combination of peer forums, local government-focused workshops, and a web based clearinghouse that will provide specific energy efficiency information and resources. Support networks would encompass those already working in energy efficiency or related areas such as environment, climate or sustainability and those whose primary function is not directly related to energy efficiency such as building inspectors, maintenance staff and city council members.

The expected outcomes are the exchange of information within, across and from Partnerships to broader local government staff. The range of expected impacts is consistent with elements of the strategic plan and includes:

- Increased knowledge and awareness of energy efficiency,
- Changes in local government behaviors related to energy efficiency,
- Increased ability to implement energy efficiency within local government, and
- Creation of linkages across local government staff and added resources that maximize the government's ability to develop goals and implement strategies around energy efficiency and carbon reduction.

Non-Incentive Services

The functions and activities discussed in this section are all non-incentive services.

Target Audience

The Partnership program will assist local governments, quasi-governments, nonprofits focused on the public sector, and their agents in achieving objectives of the Strategic Plan. Each Partner's actions in this arena will benefit their respective constituents, including but not limited to residents, inspectors, contractors, small businesses, and other local governments.

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Implementation

For each of the five Strategic Plan Support elements described, implementation will vary across the LGPs. For detailed information about implementation, please see the Individual LGP PIPs. In general, each Partnership contract will identify which strategic plan program elements will be included in the partnership program and the associated budget. The utility and partner responsibilities will be defined for each program element included in the partnership.

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5 - Program Element Rationale and Expected Outcome – Element B - Strategic Plan Support

a) Quantitative Baseline and Market Transformation Information

Market Transformation (MT) metrics proposed in Tables 3 and 4 are preliminary. The proposed metrics are meant to initiate a collaborative effort to elaborate meaningful metrics that will provide overall indicators of how markets as a whole are evolving. MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments.

Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”¹⁷ The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies¹⁸.

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal relationships, and 9) market structures¹⁹. Markets are social institutions²⁰, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains²¹ as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation progress²². According to York²³, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

¹⁷ California Public Utilities Commission Decision, D.98-04-063, Appendix A.

¹⁸ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>

¹⁹ Pelozo, J., and York, D. (1999). “Market Transformation: A Guide for Program Developers.” Energy Center of Wisconsin. Available at: <http://www.ecw.org/ecwresults/189-1.pdf>

²⁰ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.eceee.org/conference_proceedings/eceee/2001/Panel_2/p2_7/Paper/

²¹ Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

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The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation²⁴. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory²⁵, with the state of a market usually characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades²⁶. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects²⁷. The ability to make causal connections between these market transformation effects and any particular program's activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and foremost, they need to be designed specifically to address market transformation. "The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)²⁸" The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts²⁹, but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

²⁴ Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). "Market Transformation: Substantial Progress from a Decade of Work." American Council for an Energy-Efficient Economy, Report Number A036. Available at: <http://www.aceee.org/pubs/a036full.pdf>

²⁵ Rogers (1995) Diffusion of Innovations, 5th Ed.

²⁶ Example in bottom chart of this graphic from NYTimes:

<http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html>

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²⁸ Peters, J.S., Mast,B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume 1.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

²⁹ CPUC (2008) Strategic Plan, p. 5.

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Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions³⁰. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the utilities look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers³¹ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

The metrics and baselines described below in Tables 3 and 4 are presented for the purposes of starting the much-needed discussion between all key participants. These are suggestions, intended to allow key participants to pilot-test processes for establishing baseline metrics, tracking market transformation progress, and for refining evaluation tools. Early trial of these evaluation metrics will reveal any gaps in data tracking so that we may refine our processes before full-scale market transformation evaluations take place.

The set of metrics we selected is intentionally a small set, for several reasons. First, as mentioned, the full set of metrics and baselines need to be selected by key participants. Second, we anticipate that market share data for many mid- and low-impact measures will be too sparse to show MT effects and not cost-effective to analyze. Third, we selected core measures and metrics that would both be indicative of overall portfolio efforts. These measures are also likely to be offered on a broad level by other utilities, providing a greater base of sales and customer data that could be analyzed for far-reaching MT effects. Therefore, for the Local Government Partnerships the following approach to quantitative baseline and market transformation information is presented as follows. The utilities recommend development of a baseline, and tracking the number of cities, counties and government institutions that have plans for written energy efficiency provisions. Such a metric relates directly to the Strategic Plan (Goal 12.3.4) in terms of measuring progress towards 50% plans for sustainability.

In addition, we propose tracking community adoptions of new construction model reach codes, both residential and nonresidential. This metric aligns with the Strategic Plan (Goal 12.3.1). In addition to being a direct indicator of support by local government partnerships, community adoptions of model reach codes are of strategic interest to the CPUC. A

³⁰ Nadel, Thorne, Saches, Prindle & Elliot (2003).

³¹ Pelozo & York, (1999).

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proliferation of dissimilar reach codes would confuse the market relative to building codes and incentive programs. Model reach codes to be developed by Codes and Standards would allow energy efficiency efforts across partners to be aligned with a clear target for each climate zone. As discussed in the Local Government PIPs, the IOUs intend to work closely with partners in establishing baseline code compliance levels and pushing for model reach codes.

With this discussion in mind, IOUs propose the following metrics for this sector:

Table 3

	Baseline Metric	
	Metric A	Metric B
Energy Efficiency Action Plans	Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.	
Model Reach Codes		In coordination with Codes and Standards, develop a baseline inventory of cities and counties within the IOU territory with adopted model reach codes

c) Market Transformation Information

As stated above, market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

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As a consequence, it is not appropriate to offer more than broad and general projections. Any targets provided in the following table are nothing more than best guesstimates, and are subject to the effects of many factors and market forces outside the control of program implementers.

Table 4

	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time
In coordination with Codes and Standards, develop a baseline inventory of cities and counties within the IOU territory with adopted model reach codes	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time

c) Program Design to Overcome Barriers:

Refer to individual partnership PIP section.

d) Quantitative Program Objectives:

Table 5

Program/Element	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1	TBD	TBD	TBD
Target #2	TBD	TBD	TBD
Target #3	TBD	TBD	TBD
Target #4	TBD	TBD	TBD

Refer to individual partnership PIP section.

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6 - Other Program Element Attributes – Element B - Strategic Plan Support

a) Best Practices

SDG&E's approach to Strategic Plan Support is innovative and reflects lessons learned because SDG&E has observed that multiple actors provide governments with long-term GHG reduction and energy reduction strategies. SDG&E has learned from previous programs that it is more important for governments to have access to tools and technical assistance to become informed energy actors rather than directly performing all functions themselves.

b) Innovation

The Strategic Plan Support element is inherently innovative since these elements have not been a part of previous Government Partnership program.

c) Interagency Coordination

The Strategic Plan Support element affords many opportunities for CEC, ARB and PIER coordination especially as communities look towards AB32 implementation and Title 24 compliance and development of climate action plans. Government Partnerships who include Strategic Plan Support elements in their program will look to align the goals of their respective communities around the goals of the Strategic Plan through education and outreach campaigns, peer-to-peer support and by providing technical assistance around compliance issues with these agencies.

d) Integrated/coordinated Demand Side Management

The Strategic Plan Support program element will achieve coordination of demand side management, low income efficiency, and workforce training. Peer to peer support will serve as a catalyst for integration by providing a platform for knowledge sharing. In this way, there is an opportunity to expose all peer to peer participants to all utility program offerings in an integrated fashion.

e) Integration across resource types (energy, water, air quality, etc)

This program element integrates other resources, especially regarding guiding documents, which necessarily should include resource types such as waste, land use, water. While government Partnerships are designed to focus on energy efficiency, SDG&E can encourage partnerships to access other resources and can also emphasize when energy programs have incidental benefits to other resources. See individual PIPs for more specific information.

f) Pilots

Individual LGPs may choose to implement pilots related to this element. See individual PIPs for more specific information.

g) EM&V

A process evaluation will be conducted by a third party evaluator. The evaluation will assess communication and coordination effectiveness between partners as well as satisfaction with the service and increased awareness of energy efficiency opportunities. A combination of interviews

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and focus groups will likely be used to collect data. The evaluation is expected to build upon results found in the recently completed process evaluation for PY2006 to 2008.

Element C - Core Program Coordination

4 – Program Element Description and Implementation – Element C - Core Program Coordination

C. Core Program Coordination	
	C1- Outreach Education
	C2 - Third Party Program Coordination
	C3 - Technical Assistance

Overview

The Core Program Coordination element will be implemented to some degree by all of the unique individual Local Government Partners (LGPs). This section (4C – 6C) describes the standard overview, rationale, outcomes, and barriers associated with the Core Program Coordination element by an LGP. If an individual LGP has a distinctive approach to Core Program Coordination, that LGPs individual PIP will contain additional information. Within Government Partnerships, the unique elements of Emerging Cities will also support the Core Program Coordination element.

Coordination with Core programs is important to the effectiveness of each individual LGP. A key to SDG&E’s coordination effort is its market segment planning approach. All of SDG&E’s programs will be coordinated starting in 2009 via a customer segment planning team, which will include SDG&E staff from core, third party and government partnership as well as demand response, customer generation, and others. This means that LGPs will be coordinated with all other energy efficiency portfolio efforts to reach agricultural, commercial, industrial, residential and small business customers.

In addition, LGPs coordinate with each other, with SDG&E, and with other implementers to support energy efficiency programs across the SDG&E portfolio, and particularly with respect to outreach education for residential and small business customers, third party programs, and technical assistance. By utilizing the outreach channels of the local government, these programs target customers and fully canvas neighborhoods that may not be targeted by Core Programs.

In a continued effort to insure that customers and energy efficiency opportunities are not overlooked, LGPs will also have the opportunity to participate in a program to provide energy efficiency to moderate income customers slightly above the LIEE guideline or to customers who are unable to produce the necessary LIEE documentation.

Because of their close ties to the community, individual LGPs may identify opportunities to serve customer energy needs through integrated demand side management products including energy efficiency, demand response, low income programs, and codes and standards assistance as well as other utility programs including distributed generation. Such coordination provides

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customers with comprehensive solutions and minimizes overlap of effort and service. Where the LGP identifies a need that they do not currently service, they can refer participants to programs. The Partnership will provide the participant with contact information for the relevant programs and assistance as required. If program overlap is determined to exist, the Partnership will notify SDG&E of the program(s) involved and discuss and coordinate efforts so as not to duplicate services and compete for customers.

In addition, LGPs can coordinate with and leverage other sources of funding to increase the impact of SDG&E offerings and include programs provided by other agencies such as the CEC, ARB and other state and federal agencies.

In addition to outreach for energy efficiency opportunities, LGPs are an important delivery channel for integrated approaches and emerging technologies. As new approaches of integration and emerging technologies are available, the LGPs will serve as a channel for providing the appropriate outreach and education to the community.

C1 - Outreach and Education

LGPs will provide education and outreach to inform their customers about comprehensive energy saving opportunities and best practices. All of the outreach will be coordinated with SDG&E's marketing efforts and statewide marketing energy efficiency marketing initiatives.

As part of the coordination of Training and Education, the LGPs will leverage trainings at the San Diego Energy Resource Center and other sources.

C2 - Third Party Program Coordination

LGPs will coordinate with Third Party direct install contractors and/or other core programs to implement retrofits of existing government buildings and municipal facilities. The contracts will be coordinated with the LGPs by establishing agreements between the contractors and the GPs that specify which customers and in which geographic areas each contractor is eligible to serve. Contractors will be selected to provide focus on targeted customers as well as specialization in strategic technologies such as HVAC tune-ups and replacement projects.

C3 – Technical Assistance

Technical assistance is available to LGPs. Assistance many include but is not limited to audits, engineering calculations, reports and inspections.

Target Audience

Community level data will be analyzed to determine the areas with the largest potential based on market potential studies and looking at previously served customers.

C1 - Outreach and Education

The primary audience for outreach and education includes the following:

- Local Government Partners
- Government and agency employees

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- Community based organizations
- Contractors
- SDG&E customers
- Building engineers

C2 - Third Party Program Coordination

Individual LGPs will coordinate closely with the third parties providing the direct install implementation. In addition, each individual LGP will be trained in the programs offered by the third parties so that they may coordinate and/or refer customers to these programs. For example, third party coordination may be appropriate for more specialized technologies or specific target segments.

C3 – Technical Assistance

The target audience for technical assistance includes local government partners, SDG&E customers, and contractors.

Implementation

C1 - Outreach and Education

Objectives of the LGPs include leveraging marketing from existing core and statewide programs to provide a consistent and cost effective approach. Because LGPs best understand the needs of their community, the LGPs will tailor offerings to the community and implement programs through community outreach.

LGPs will also work with local governments, non-profits and SDG&E to develop an education curriculum and schedule that will engage their communities. Partnerships will leverage the resources of the San Diego Energy Resource Center.

Some individual LGPs may develop training materials for adopting and implementing local energy initiatives or may utilize such materials developed under the Emerging Cities program. Partnerships will also develop workshop topics, schedule workshops in key locations, arrange for workshop presenters, coordinate workshop materials, market workshops to local governments, and facilitate workshops

C2 - Third Party Program Coordination

LGPs using third party direct install programs will coordinate with third party direct install contractors to determine which areas of the community should be the focus of the direct install contractors marketing efforts. The direct install contracts will be coordinated with the LGPs by establishing agreements between the contractors and the LGPs that specify which customers and geographic areas each contractor is eligible to serve. This method provides a more orderly approach to using the limited number of contractors to reach the widest population in the state in a consistent manner. Each direct installation implementer will work with their assigned LGP to develop a marketing strategy for their assigned LGP territory. Each LGP with Direct Install element in their program will have a direct install budget that will augment the third party contract funds. Each project implemented and coordinated within a LGP community will be funded by the GP program and the associated savings will be allocated to the GP.

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C3 – Technical Assistance

Technical assistance is available to LGPs to provide audits, engineering calculations, reports and inspections. Additionally, partnerships will take a strategic market plan approach to address the customers with the largest potential or the biggest need. These efforts will be conducted with other third party and Core programs.

5 - Program Element Rationale and Expected Outcome – Element C Core Program Coordination

a) Quantitative Baseline and Market Transformation Information

Market Transformation (MT) metrics proposed in Tables 3 and 4 are preliminary. The proposed metrics are meant to initiate a collaborative effort to elaborate meaningful metrics that will provide overall indicators of how markets as a whole are evolving. MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments.

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Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal relationships, and 9) market structures³⁴. Markets are social institutions³⁵, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains³⁶ as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these incentives distort true market price signals and may directly counter market transformation

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progress³⁷. According to York³⁸, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation³⁹. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory⁴⁰, with the state of a market usually characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades⁴¹. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects⁴². The ability to make causal connections between these market transformation effects and any particular program’s activities fades with time, as markets continually change and other influences come into play.

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reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)⁴³ The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts⁴⁴, but also reflects the CPUC's directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions⁴⁵. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the utilities look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin's guide for MT program developers⁴⁶ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

The metrics and baselines described below in Tables 3 and 4 are presented for the purposes of starting the much-needed discussion between all key participants. These are suggestions, intended to allow key participants to pilot-test processes for establishing baseline metrics, tracking market transformation progress, and for refining evaluation tools. Early trial of these evaluation metrics will reveal any gaps in data tracking so that we may refine our processes before full-scale market transformation evaluations take place.

The set of metrics we selected is intentionally a small set, for several reasons. First, as mentioned, the full set of metrics and baselines need to be selected by key participants. Second, we anticipate that market share data for many mid- and low-impact measures will be too sparse to show MT effects and not cost-effective to analyze. Third, we selected core measures and metrics that would both be indicative of overall portfolio efforts. These measures are also likely to be offered on a broad level by other utilities, providing a greater base of sales and customer data that could be analyzed for far-reaching MT effects. Therefore, for the Local Government Partnerships the following approach to quantitative baseline and market transformation information is presented as follows.

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⁴⁴ CPUC (2008) Strategic Plan, p. 5.

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The utilities recommend development of a baseline, and tracking the number of cities, counties and government institutions that have plans for written energy efficiency provisions. Such a metric relates directly to the Strategic Plan (Goal 12.3.4) in terms of measuring progress towards 50% plans for sustainability.

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With this discussion in mind, IOUs propose the following metrics for this sector:

Table 3

	Baseline Metric	
	Metric A	Metric B
Energy Efficiency Action Plans	Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.	
Model Reach Codes		In coordination with Codes and Standards, develop a baseline inventory of cities and counties within the IOU territory with adopted model reach codes

b) Market Transformation Information

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As stated above, market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

As a consequence, it is not appropriate to offer more than broad and general projections. Any targets provided in the following table are nothing more than best guesstimates, and are subject to the effects of many factors and market forces outside the control of program implementers.

Table 4

	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time
In coordination with Codes and Standards, develop a baseline inventory of cities and counties within the IOU territory with adopted model reach codes	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time

c) Program Design to Overcome Barriers:

Refer to individual partnership PIP section.

d) Quantitative Program Objectives:

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Table 3

Program/Element	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1	TBD		
Target #2			
Target #3			
Target #4			

Refer to individual partnership PIP section.

6 - Other Program Element Attributes – Element C Core Program Coordination

Other Program Element Attributes	CORE Program Coordination
a) <u>Best Practices</u> : Describe why program element approach constitutes “best practice” or reflects “lessons learned” in market strategies, program design and/or implementation techniques, or past experience. Provide references where available.	This program element incorporates lessons learned from previous partnerships. Close coordination with Core and 3rd Party programs is integral for success. See EM&V section for future documentation of best practices.
b) <u>Innovation</u> : Describe any unique or innovative aspects of program element not previously discussed. Why is this innovative?	This program element is unique because it takes coordination to a new level from the 2006-2008 cycle. Government Partnerships will work with Core programs, 3rd Party programs to develop a strategic market segment plan. This plan will identify largest opportunities for cost-effective energy savings, address barriers, share best practices and efficiently allocate resources. Partnerships will use education and outreach channels to inform their customers about energy savings opportunities and share best practices within partnerships.
c) <u>Interagency Coordination</u> : Describe any interagency coordination with the ARB, CEC on PIER or Codes and Standards; non-utility market initiatives; energy efficiency market forces, opportunities and trends; and timeline by which market segment will be “transformed” or other aspects of the program.	Core program integration will require strong coordination with outside agencies. As communities look to retrofit buildings and perform education and outreach, coordination with other governmental agencies will be a priority. A strategy will be to identify partnership opportunities with the various agencies and beginning to align our goals. On the community level, as local governments begin to think about AB32 implementation, GHG emission reduction opportunities will be identified by modeling

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Other Program Element Attributes	CORE Program Coordination
	usage, past program participation and other trends.
<p>d) <u>Integrated/coordinated Demand Side Management</u>: Describe how program will achieve integrated or coordinated delivery of all DSM options, as well as LIEE and WET. (If this is an integral part of the program element and fully covered under #4 note that here.) Describe in detail how program will achieve integrated or coordinated delivery of <u>all</u> DSM options (energy efficiency, demand response, and onsite generation) where applicable including integrated program design and delivery, shared budgets, program evaluation, and incentive mechanisms that promote greater integration of DSM resources. Provide a complete description for all the technologies, including integration supporting technologies that will be included in the program. If the program does not include all DSM options as noted above, briefly provide an explanation for a more limited subset of DSM technologies. Utilize Attachment 5A to highlight any shared or leveraged budget categories and amounts (admin, incentives, ME&O, and other applicable categories).</p>	<p>In line with the Integration chapter of the Strategic Plan, partnerships will begin to adopt an integrated strategy for delivering demand response and self-generation programs. Partnerships will work to develop working groups to enable the most effective delivery method of the various programs. Workforce education and training initiatives will build capacity at the community level.</p>
<p>e) <u>Integration across resource types</u> (energy, water, air quality, etc): If program aims to integrate across resources types, provide rationale and general approach. (If this is an integral part of the program element and fully covered under #4 note that here.)</p>	<p>Several partnerships have worked with various water, air quality and transportation agencies to provide integrated offerings. By coordinating with LIEE programs and other agency programs, certain partnerships plan to work closely with other agencies and look for further opportunities.</p>

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Other Program Element Attributes	CORE Program Coordination
f) <u>Pilots</u> : Describe any pilot projects that are part of this program (If this was fully covered under #4, note that here.)	Partnerships will look at their government facilities in a strategic and prioritized manner.
g) <u>EM&V</u> : Describe any process evaluation or other evaluation efforts that will be undertaken by the utility to determine if the program is meeting its goals and objectives. Include the evaluation timeframe and brief description of scope, as well as a summary of specific methodologies, if already developed. If not developed, indicate the process for developing them. Include reference to tracking databases that will be used for evaluation purposes.	A process evaluation will be conducted by a third party evaluator. The evaluation will assess communication and coordination effectiveness between partners as well as satisfaction with the service and increased awareness of energy efficiency opportunities. A combination of interviews and focus groups will likely be used to collect data. The evaluation is expected to build upon results found in the recently completed process evaluation for PY2006 to 2008.

Element D – Unique Program Element – Emerging Cities Program:

4 – Program Element Description and Implementation – Element D – Emerging Cities Program

Overview

The Emerging Cities program (ECP) will build the capacity of local governments to engage in energy efficiency and will provide support to local governments and communities to achieve their energy use and GHG reduction goals. SDG&E will provide an integrated suite of program elements, including tools and technical assistance, to all cities and counties in the service area. The tightly-integrated program services, offered by SDG&E and selected service providers, will include:

- Elements will include government facility efficiency tools, code compliance and reach code support, guiding documents, community financing, and templates for outreach tools;
- Peer-to-peer learning networks, support, and opportunities;
- Robust communication of best practices and case studies; and
- Recognition program.

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The Emerging Cities program was initially developed to incorporate key strategies from the workshops and documents that led to the Strategic Plan (Strategic Plan). These key strategic tenets remain a cornerstone of the Green Communities program:

- **Build capacity for governments to learn by doing.** SDG&E's plan leverages existing LGPs and GHG emissions reduction activities in the SDG&E service area. The Emerging Cities program will increase the capacity of local governments to take informed energy action leading to long-term energy savings.
- **Rapidly expand employee training for local governments.** By increasing support for statewide and regional coordination and information-sharing, SDG&E will enable peer-to-peer learning.
- **Local governments will mobilize the community and set community-wide standards.** This program builds the capacity of local governments to mobilize multiple stakeholders, including residents and businesses, to set goals and reduce energy use and GHG emissions.
- **By 2020, DSM awareness, incentives, and technical assistance and dedicated staff resources focused on energy management.** This program assists cities with developing energy action plans and builds awareness of DSM approaches.

Many cities are already actively setting GHG emission / reduction targets and participating in energy efficiency programs, and AB 32 requires governments to reduce GHG emissions 15% from 2008 by 2020. In addition, the Strategic Plan calls for 50% of governments to adopt energy/sustainability/climate action plans by 2015 and 100% by 2020, including implementation of plans and tracking achievements. Similarly the Strategic Plan goals are for all local government General Plans to include energy efficiency, sustainability and climate change policies by 2015. However, many cities lack information, expertise, and resources to create and implement effective plans.

SDG&E plans to expand support for local GHG and energy use reduction efforts through the Emerging Cities Program. This program will work closely with communities and municipal governments to help them increase their capacity to engage in energy efficiency and achieve their energy use and GHG reduction goals. SDG&E will increase its capacity to deliver energy program specific data so that governments can develop GHG strategies that take advantage of Utility programs to help meet their GHG reduction and renewable goals. Improved information, shared with governments, enables governments to increase use of Utility offerings and energy savings by leveraging governments' unique roles.

The Emerging Cities program is available to all governments in SDG&E's service area. The program will support LGPs in undertaking actions related to the three major elements described in the Master PIP (Government Facilities, Strategic Plan Support, and Core Program Coordination), as summarized below.

Element A – Government Facilities

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The ECP supports the Government Facilities element by helping to place energy efficiency projects in the context of climate change and a guiding plan for energy action for a local government or community. In addition, the peer sharing networks supported by ECP can help to spread best practices relating to government facilities work among local governments. Finally, ECP will provide access and may utilize implementers to train governments in the use of tools supporting government facilities efficiency, such as benchmarking.

Element B – Strategic Plan Support

The ECP is most robust in its support of the Strategic Plan Support element because it was created specifically to advance the strategic plan. Details for each sub-element are below.

B1 – Code Compliance Support

Emerging Cities program will work closely with the Codes and Standards team to promote code compliance by governments as a priority, high impact GHG emissions reduction strategy to use in Climate Action Plan implementation. ECP is aligned and coordinated with SDG&E's multiple training programs, including those focused on standards training on specific Title 20 and Title 24 measures, improving local government codes enforcement, and stretch code development support. Thus, this program will help maximize energy efficiency in new and existing construction through local government policy.

B2 – Reach Code Support

SDG&E will continue to work closely with the Codes and Standards team to help governments desiring to achieve greater energy use and GHG reductions by developing and adopting above code ordinances as part of Climate Action Plan implementation. ECP will closely coordinate with Codes and Standards staff and contractors to identify governments interested in pursuing stretch codes, to promote regional consistency in green building stretch codes, and to remain consistent with current Title 24 climate designations to reduce potential market confusion. In close coordination with Codes and Standards, ECP also will identify governments interested in exploring a tiered model of increasing code stringency.

B3 – Guiding Document(s) Support

In close cooperation with statewide actors such as the CPUC, CARB and CEC, SDG&E will offer:

- SDG&E program participation data and energy savings data that can be used by governments to develop and implement energy and GHG reduction strategies that maximize use of utility programs as appropriate
- CARB/ICLEI municipal operations and community scale GHG emissions inventory protocols
- Project specific protocols approved by CARB or other sanctioned programs
- Core list of cost-effective, priority impactful strategies as a template for local governments to utilize.

B4 – Financing for the Community

Local governments often have limited funding for energy efficiency and renewable projects. SDG&E will support efforts to establish innovative methods of financing projects. This includes government options that allow energy efficiency cost savings to be returned to the host facility or

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department and/or as a revolving fund for additional energy projects, and tax assessments districts. The program will also look at other strategies that facilitate financing for private residential and commercial projects, and increase energy efficiency and renewable projects in the community.

B5 – Peer-to-Peer Support

- SDG&E's offering will include statewide coordination and information sharing through peer-to-peer learning; networking workshops for elected officials and staff through organizations such as California State Association of Counties and League of California Cities; and regional information sharing through various organizations.
- The program will offer a recognition program for cities and counties that reduce their GHG emissions and achieve energy savings.
- Statewide and Regional Action Planning Workshops for development of regional priorities and strategies for action plans.

Element C – Core Program Coordination

The ECP supports the Core Program Coordination element in a general way by helping local governments develop the capacity to engage in coordination with the core programs. The Core Program Coordination element is very tactical and targeted, and therefore is most relevant at the individual LGP level with regards to coordination with direct install, third parties, and LIEE. However, the GC program provides overarching support to governments in the areas of outreach and technical assistance.

C1 – Outreach and Education

- Emerging Cities program provides additional capacity for SDG&E to deliver an integrated set of services to governments to meet GHG reduction and renewable goals.
- ECP contractors may include energy managers at large, to identify energy savings opportunities and increase referrals to Utility programs.
- Marketing, education and outreach (ME&O) for the ECP program is an integral part of the overall ME&O strategy for local governments. SDG&E is focused on developing a marketing plan, customer segmentation and marketing collateral to support the efforts of the products, services and sales groups. The process proceeds across a logical path to meeting the customer's needs. Marketing green services and opportunities to local governments has received high priority.
- Outreach and marketing will also be coordinated and/or implemented through peer organizations for cities and counties such as SANDAG, regional associations, California League of Cities, Local Government Commission, ICLEI, and other public sector conveners focused on air quality and GHG emissions reduction.

C2 – Technical Assistance

The EC program supports coordination with core technical assistance by making local governments aware of the availability of this assistance.

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Non-Incentive Services

This is a non-resource government partnership program; all of the services delivered are non-incentive.

Target Audience

The EC program offering is available to all cities in SDG&E service area. The program's goal is to deliver start-up assistance to help communities effectively and efficiently save energy and reduce GHG emissions.

Services will be delivered on a regional or state-wide basis, whenever possible, to increase efficiency.

Implementation

SDG&E will implement the EC program by creating and providing tools to all local governments. Such tools, such as sample plans, best practice case studies, and webinars, will be made available to local governments via internet or print, and disseminated through existing marketing channels. Additional tools, such as expanded GHG and/or program penetration data, will be available to local governments on a targeted basis initially, while automated program delivery channels are developed.

SDG&E will also contract with organizations to serve as EC programs providers to deliver specific tools and targeted services to local governments. Initially, SDG&E selected one city, the City of Imperial Beach, to pilot the program selection process that was run in 2008:

The EC Program will provide tools, workshops and technical assistance related to energy and GHG reduction. Basic services provided to cities and counties through this program include:

- Web-based tool kit that may contain GHG Emissions protocols, Energy and Climate Action Plan Templates, decision support tools to measure and prioritize energy reduction actions, and communications tool kit;
- Limited technical assistance for plans and policies;
- Technical assistance on GHG plan implementation that drives customers toward energy efficiency, advanced metering through SDG&E's Smart Meter program, demand response, solar and other self-generation options, green programs such as clean air transportation offered by IOUs including LGPs, as well as others offered by third-party providers, and the State, such as the CEC's Energy Partnership Program; and
- Local government training and information sharing through peer-to-peer learning, recognition and networking workshops for elected officials and staff.

SDG&E will leverage State organizations including the CARB, EPA, Attorney General's Office, as well as regional and sub-regional organizations working in any given market. Similarly, SDG&E's vision is to leverage EC program with the San Diego Foundation and other funding agencies. This coordination will occur during the bridge period with San Diego Foundation.

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Some program scopes may change as these offerings are coordinated and integrated with SDG&E's core programs, other government partnerships, third-party programs, renewable programs or similar programs across SDG&E's service areas. Related changes may then occur in program savings estimates, budgets, activities, targeted customer segments, targeted technologies and other areas, as applicable. In addition, distributed generation, demand response and/or additional measures may be added to make programs more comprehensive, where feasible.

5 - Program Element Rationale and Expected Outcome – Element D – Emerging Cities Program

a) Quantitative Baseline and Market Transformation Information

Market Transformation (MT) metrics proposed in Tables 3 and 4 are preliminary. The proposed metrics are meant to initiate a collaborative effort to elaborate meaningful metrics that will provide overall indicators of how markets as a whole are evolving. MT metrics should neither be used for short-term analyses nor for specific program analyses; rather, should focus on broad market segments.

Market transformation is embraced as an ideal end state resulting from the collective efforts of the energy efficiency field, but differing understandings of both the MT process and the successful end state have not yet converged. The CPUC defines the end state of MT as “Long-lasting sustainable changes in the structure or functioning of a market achieved by reducing barriers to the adoption of energy efficiency measures to the point where further publicly-funded intervention is no longer appropriate in that specific market.”⁴⁷ The Strategic Plan recognizes that process of transformation is harder to define than its end state, and that new programs are needed to support the continuous transformation of markets around successive generations of new technologies⁴⁸.

Market transformation programs differ from resource acquisition programs on 1) objectives, 2) geographical and 3) temporal dimensions, 4) baselines, 5) performance metrics, 6) program delivery mechanisms, 7) target populations, 8) attribution of causal relationships, and 9) market structures⁴⁹. Markets are social institutions⁵⁰, and transformation requires the coordinated effort of many stakeholders at the national level, directed to not immediate energy savings but rather to intermediary steps such as changing behavior, attitudes, and market supply chains⁵¹ as well as changes to codes and standards. Resource acquisition programs rely upon the use of financial incentives, but concerns have been raised that these

⁴⁷ California Public Utilities Commission Decision, D.98-04-063, Appendix A.

⁴⁸ California Public Utilities Commission (2008) *California Long Term Energy Efficiency Strategic Plan*, p. 5. Available at <http://www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>

⁴⁹ Pelozo, J., and York, D. (1999). “Market Transformation: A Guide for Program Developers.” Energy Center of Wisconsin. Available at: <http://www.ecw.org/ecwresults/189-1.pdf>

⁵⁰ Blumstein, C., Goldstone, S., & Lutzenhiser, L. (2001) “From technology transfer to market transformation”. Proceedings of the European Council for an Energy Efficient Economy Summer Study. Available at http://www.eceee.org/conference_proceedings/eceee/2001/Panel_2/p2_7/Paper/

⁵¹ Sebold, F. D., Fields, A., Skumatz, L., Feldman, S., Goldberg, M., Keating, K., Peters, J. (2001) *A Framework for Planning and Assessing Publicly Funded Energy Efficiency*. p. 6-4. Available at www.calmac.org.

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incentives distort true market price signals and may directly counter market transformation progress⁵². According to York⁵³, “Market transformation is not likely to be achieved without significant, permanent increases in energy prices. From an economic perspective, there are 3 ways to achieve market transformation: (1) fundamental changes in behavior, (2) provide proper price signals, and (3) permanent subsidy.”

The question of what constitutes successful transformation is controversial because of a Catch-22: Market transformation is deemed successful when the changed market is self-sustaining, but that determination cannot be made until after program interventions are ended. Often, however, the need for immediate energy and demand savings or immediate carbon-emissions reductions will mean that program interventions may need to continue, which would interfere with the evaluation of whether MT is self-sustaining. Market transformation success has also been defined in terms of higher sales of efficient measures than would have otherwise occurred against a baseline absent of program interventions. The real world, however, provides no such control condition. Evaluators must estimate these baselines from quantitative factors such as past market sales that may be sparse and/or inaccurate - particularly for new products. Evaluations must also defer to expert judgments on what these baselines may have been as well as on the degree of successful market transformation⁵⁴. Due to the subjective nature of these judgments, it is imperative that baselines as well as milestone MT targets be determined and agreed upon through collaborative discussion by all stakeholders, and these targets may need periodic revision as deemed necessary by changing context.

Market transformation draws heavily upon diffusion of innovation theory⁵⁵, with the state of a market usually characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades⁵⁶. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects⁵⁷. The ability to make causal connections between these market transformation effects and any particular program’s activities fades with time, as markets continually change and other influences come into play.

These challenges mentioned above are in reference to programs that were specifically designed to achieve market transformation; and these challenges are only compounded for programs that were primarily designed to achieve energy and demand savings. However, since the inception of market transformation programs almost two decades ago, many lessons have been learned about what the characteristics of successful MT programs are. First and

⁵² Gibbs, M., and Townsend, J. (2000). The Role of Rebates in Market Transformation: Friend or Foe. In *Proceedings from 2000 Summer Study on Energy Efficiency in Buildings*.

⁵³ York, D., (1999). “A Discussion and Critique of Market Transformation”, Energy Center of Wisconsin. Available at <http://www.ecw.org/ecwresults/186-1.pdf>.

⁵⁴ Nadel, S., Thorne, J., Sachs, H., Prindle, B., and Elliot, R.N. (2003). “Market Transformation: Substantial Progress from a Decade of Work.” American Council for an Energy-Efficient Economy, Report Number A036. Available at: <http://www.aceee.org/pubs/a036full.pdf>

⁵⁵ Rogers (1995) *Diffusion of Innovations*, 5th Ed.

⁵⁶ Example in bottom chart of this graphic from NYTimes:

<http://www.nytimes.com/imagepages/2008/02/10/opinion/10op.graphic.ready.html>

⁵⁷ Sebold et al (2001) p. 6-5,

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foremost, they need to be designed specifically to address market transformation. “The main reason that (most) programs do not accomplish lasting market effects is because they are not designed specifically to address this goal (often because of regulatory policy directions given to program designers.)⁵⁸” The Strategic Plan recognizes that regulatory policies are not yet in place to support the success of market transformation efforts⁵⁹, but also reflects the CPUC’s directive to design energy efficiency programs that can lay the groundwork for either market transformation success or for codes and standards changes.

Above all else, the hallmark of a successful market transformation program is in the coordination of efforts across many stakeholders. The most successful MT programs have involved multiple organizations, providing overlapping market interventions⁶⁰. The Strategic Plan calls for coordination and collaboration throughout, and in that spirit the utilities look forward to working with the CPUC and all stakeholders to help achieve market transformation while meeting all the immediate energy, demand, and environmental needs. Drawing upon lessons learned from past MT efforts, the Energy Center of Wisconsin’s guide for MT program developers⁶¹ suggests that the first step is not to set end-point definitions, progress metrics or goals. Rather, the first steps include forming a collaborative of key participants. As the Strategic Plan suggests, these may include municipal utilities, local governments, industry and business leaders, and consumers. Then, with the collective expertise of the collaborative, we can define markets, characterize markets, measure baselines with better access to historical data, and define objectives, design strategies and tactics, implement and then evaluate programs. The collaborative will also provide insights that will set our collective expectations for the size of market effects we can expect, relative to the amount of resources we can devote to MT. No one organization in the collaborative will have all the requisite information and expertise for this huge effort. This truly needs to be a collaborative approach from the start.

The metrics and baselines described below in Tables 3 and 4 are presented for the purposes of starting the much-needed discussion between all key participants. These are suggestions, intended to allow key participants to pilot-test processes for establishing baseline metrics, tracking market transformation progress, and for refining evaluation tools. Early trial of these evaluation metrics will reveal any gaps in data tracking so that we may refine our processes before full-scale market transformation evaluations take place.

The set of metrics we selected is intentionally a small set, for several reasons. First, as mentioned, the full set of metrics and baselines need to be selected by key participants. Second, we anticipate that market share data for many mid- and low-impact measures will be too sparse to show MT effects and not cost-effective to analyze. Third, we selected core measures and metrics that would both be indicative of overall portfolio efforts. These measures are also likely to be offered on a broad level by other utilities, providing a greater base of sales and customer data that could be analyzed for far-reaching MT effects.

⁵⁸ Peters, J.S., Mast, B., Ignelzi, P., Megdal, L.M. (1998). *Market Effects Summary Study Final Report: Volume I.* Available at <http://calmac.org/publications/19981215CAD0001ME.PDF>.

⁵⁹ CPUC (2008) Strategic Plan, p. 5.

⁶⁰ Nadel, Thorne, Saches, Prindle & Elliot (2003).

⁶¹ Pelosa & York, (1999).

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Therefore, for the Local Government Partnerships the following approach to quantitative baseline and market transformation information is presented as follows.

The utilities recommend development of a baseline, and tracking the number of cities, counties and government institutions that have plans for written energy efficiency provisions. Such a metric relates directly to the Strategic Plan (Goal 12.3.4) in terms of measuring progress towards 50% plans for sustainability.

In addition, we propose tracking community adoptions of new construction model reach codes, both residential and nonresidential. This metric aligns with the Strategic Plan (Goal 12.3.1). In addition to being a direct indicator of support by local government partnerships, community adoptions of model reach codes are of strategic interest to the CPUC. A proliferation of dissimilar reach codes would confuse the market relative to building codes and incentive programs. Model reach codes to be developed by Codes and Standards would allow energy efficiency efforts across partners to be aligned with a clear target for each climate zone. As discussed in the Local Government PIPs, the IOUs intend to work closely with partners in establishing baseline code compliance levels and pushing for model reach codes.

With this discussion in mind, IOUs propose the following metrics for this sector:

Table 3

	Baseline Metric	
	Metric A	Metric B
Energy Efficiency Action Plans	Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.	
Model Reach Codes		In coordination with Codes and Standards, develop a baseline inventory of cities and counties within the IOU territory with adopted model reach codes

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b) Market Transformation Information

As stated above, market transformation draws heavily upon diffusion of innovation theory, with the state of a market characterized by adoption rate plotted against time on the well-known S-shaped diffusion curve. In practice, however, the diffusion curve of products may span decades. Market share tracking studies conducted 3, 5 or even 10 years after the start of an MT program may reveal only small market transformation effects. Therefore it is problematic, if not impractical, to offer internal annual milestones towards market transformation sectors and specific program activities.

As a consequence, it is not appropriate to offer more than broad and general projections. Any targets provided in the following table are nothing more than best guesstimates, and are subject to the effects of many factors and market forces outside the control of program implementers.

Table 4

	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Baseline inventory of cities, counties and government institutions within the IOU territory that have adopted such energy planning documents as Energy Action Plans, Climate Action Plans and Sustainability Plans, and General Plans with energy or climate elements.	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time
In coordination with Codes and Standards, develop a baseline inventory of cities and counties within the IOU territory with adopted model reach codes	Improvement over baseline, over time	Improvement over baseline, over time	Improvement over baseline, over time

c) Program Design to Overcome Barriers:

Refer to individual partnership PIP section.

d) Quantitative Program Objectives:

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Table 5

Program/Element	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1	TBD		
Target #2			
Target #3			
Target #4			

Refer to individual partnership PIP section.

6 - Other Program Element Attributes- Element D – Emerging Cities Program

a) Best Practices:

The EC program element approach constitutes best practices design because it consolidates the best thinking available during the 2006-2008 program cycle.

b) Innovation:

The EC program has many innovative elements that have already been discussed. These innovative elements grew out of the CPUC strategic plan workshops to support local government actions that align with the *California Long-Term Energy Efficiency Strategic Plan* (Strategic Plan) as well as the Global Warming Solutions Act (AB 32).

- The program increases local capacity for informed energy action in the context of GHG emissions reduction.
- The program assists and supports cities and counties in implementing a recommendation from the second strategy in the Strategic Plan: “Lead by example with local governments’ facilities achieving economic energy efficiency, reduce CO2 emissions, and showcasing promising energy efficiency, DSM and renewable products and practices.”
- The program moves toward the AB 32 vision, which states that “By 2020, all of California’s local governments will be operating within an energy efficiency and renewable resource environment that is characterized by integrated state approaches, local engagement and cooperation, and informed energy action.”

c) Interagency Coordination:

The EC program will coordinate on a variety of levels with multiple agencies, such as air and water quality control boards, the CEC, local agencies, and others working with governments on GHG emissions reduction. The coordination will encompass policy, financial, and on-the-ground actions.

The EC program design is coordinated directly with the other IOU LGP supporting programs in the case of the contracts negotiated with SANDAG, ICLEI, ILG and LGC. SDG&E is also sharing general information on the EC program with the other IOUs.

d) Integrated/coordinated Demand Side Management:

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The EC program is a cornerstone to enable IDSM in the government sector. The utilities will continue their commitment to coordination with other entities and Third Parties to deliver energy-efficient measures to and in partnership with local governments. Initially, the utilities will promote offerings through an integrated marketing collateral and sales approach. With additional market segmentation and feedback from customers, the utilities will adjust approaches in order to offer the combination of programs to best meet the varied needs of customers. The goal is to integrate the following offerings:

- Energy efficiency
- Integrated energy audits/assessments focusing on customer solutions
- Demand response
- Distributed generation programs (California Solar Initiative and Self Generation Incentive Program), with a long-term focus on targeted communities where locating generation might also be able to provide grid support to the State
- Education and training programs
- Low income energy efficiency offerings
- Codes and standards education and training

In addition, the program managers will coordinate with members of the Statewide Integration Task Force to communicate approaches and offer suggestions of ways to leverage this program into a statewide offering.

- e) Integration across resource types (energy, water, air quality, etc):
The program will encourage governments to coordinate with and leverage funding from the multiple agencies, such as air quality control boards, water boards, transportation and waste agencies that are working with governments on GHG emissions reduction.
- f) Pilots:
Potential pilots with emerging Technologies or other applicable programs will be evaluated.
- g) EM&V:
A process evaluation will be conducted by a third party evaluator. The evaluation will assess communication and coordination effectiveness between partners as well as satisfaction with the service and increased awareness of energy efficiency opportunities. A combination of interviews and focus groups will likely be used to collect data. The evaluation is expected to build upon results found in the recently completed process evaluation for PY2006 to 2008.

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Element F – Individual Local Government Partnerships

City of San Diego

4) Program Element Description and Implementation Plan

a) List of program elements

Program elements are listed and explained in the next section.

b) Overview

The City proposes to partner with SDG&E to leverage the City’s assets with the programs offered by SDG&E. The anticipated outcomes are six-fold: 1) Maximize energy efficiency program penetration; 2) Achieve short and long-term energy savings and demand reduction for municipal operations and the community; 3) Reduce greenhouse gas emissions through energy and water conservation; 4) Design and enforce codes and standards and provide education and training to the diverse community served; and 5) Increase referrals to services provided by SDG&E.

Element A- Government Facilities:

Master PIP sub elements partnership addresses

A-1	Retro-fit of County and Municipal Buildings	Yes
A-2	Retro-commissioning	Yes
A-3	Integrating Demand Response	Yes
A-4	Technical Assistance	Yes
A-5	On-Bill Financing or CEC Loans	Yes

This program includes, but not limited to, lighting, HVAC, variable speed drives, and occupancy sensors in municipal facilities as cost effectively as possible while achieving the most number of kilowatt and therm savings. The construction and equipment costs are funded via a loan from the California Energy Commission effectively leveraging \$2.2 million in support of this program component. Components A1

Element B- Strategic Plan Support:

Master PIP sub elements partnership addresse

B-1	Code Compliance	Yes
B-2	Reach Code Support	Yes
B-3	Guiding Document Support	Yes
B-4	Financing for the Community	Yes
B-5	Peer to Peer Support	Yes

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B-2 – Reach Code Support:

City will implement local policies and regulations fostering energy efficient new construction and remodels to meet LEED standards in the private and public sectors. The City is working towards milestones to achieve Zero Net residential construction (2020) and commercial construction (2030) are required, and the most successful and transferable method is to develop a phased implementation of codes and standards in the Permit Review Process. This project will require close coordination with the Development Services Department (DSD), which is the designated Plan Check and Permit Review center for the City of San Diego. Using the experts from SDG&E and other utilities, a best in class summary will be developed and workshops presented to DSD technical staff and management, City policy makers, and key developers in the region. The purpose is to gain support for the phased series of codes and standards that exceed Title 24, thereby guiding clients to achieve the Net Zero construction. After approved by the Mayor and City Council, staff will work with clients to understand the forthcoming requirements. Information brochures from SDG&E will be offered and programs and services promoted

B-3 – Guiding Document Support:

A significant role of local government is that of a resource manager and planner. The linchpin for this is the City General Plan, which is a framework for the way a city grows, how it uses its resources, and the goals under which all policies, programs and ordinances must comply. The San Diego City Planning and Community Investment (CPCI) Department will be developing the Action Plan and Monitoring Report for the recently adopted General Plan throughout 2009. This is a perfect opportunity for integrating and elevating energy efficacy into land use planning, referred to as “green neighborhoods”, as well as promoting green buildings. Additionally, CPCI is linked to hundreds of “community planning districts”, and these are venues for creating local champions. Other significant functions of CPCI are economic development and the “Clean Technology “programs. Providing additional training and written material for CPCI staff will significantly expand the distribution and potentially increase the use of SDG&E energy efficiency programs.

B-5 Peer to Peer Support

As highlighted by the CPUC, the State needs the assistance of all community sectors to deliver a large portion of GHG savings necessary to reach the goals of AB 32, the Global Warming Solutions Act of 2006. To that end, this three-part program has been designed to reduce greenhouse gas emissions and has diverse target audiences: 1) Provide GHG emission inventory updates to the Mayor and City Council in 2009 and 2011; 2) Update the Climate Protection Action Plan with the assistance of a Stakeholder group consisting of representatives from the cities of San Diego and Chula Vista, SDG&E, SANDAG, IEA, The San Diego Foundation, UCSD and SDSU, and other technical support as needed; 3) Provide outreach and education to targeted groups, including the high school education program “Green Schools”, the annual “Youth Forum”, and peer-to-peer exchanges at the regional, state and national levels in order to make the best-in-class programs more transferable.

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Element C- Core Program Coordination:

Master PIP sub elements partnership addresses

C-1	Outreach and Education	Yes
C-2	Third Party Program Coordination	Yes
C-3	Technical Assistance	Yes

The City will partner with SDG&E to provide education and outreach to the commercial and residential sectors on energy efficiency and conservation. The city will also provide outreach and education to targeted groups, including the high school education program “Green Schools”, the annual “Youth Forum”, and peer-to-peer exchanges at the regional, state and national levels in order to make the best-in-class programs more transferable.

Element D- CFL Recycling:

Effective February 9, 2006, California Universal Waste regulations no longer allow households and businesses to place universal waste in the regular trash or curbside recycling containers. This has created a significant unfunded mandate for cities and a sense of frustration to residents who desire to find appropriate disposal options. Additionally, it has posed a conflict between “energy efficiency” and “environmental protection”. Therefore, working in concert with other regional household hazardous waste collection efforts, the program component will bridge CFL disposal options until such time that there is adequate manufacturer extended responsibility. Additionally, it will also serve to support additional use of CFL’s. The approach will be to secure the participation of a variety of retail outlets to be used as collection centers for the CFL's, thereby providing a convenient, safe, and legal disposal option. The retail stores will have containers that can be mailed to appropriate recycling centers, with no cost to the consumer or to the store. This model is based on a very successful one, administered by the CA Integrated Waste Management Board, that has been used for years to appropriately collect and recycle used oil.

Element E – Balboa Park Program Component:

Balboa Park is the nation's largest urban cultural park, and is home to 15 major museums, renowned performing arts venues, and the world famous San Diego Zoo. Originally defined by two grand "World's Fairs" (1915-1916 and 1935-1936), the Park now has more than 3.5 million visitors annually. Most of the institutions in Balboa Park lease their buildings from the City of San Diego, and many have antiquated lighting and Heating Ventilation and Air-Conditioning (HVAC) systems. This program would provide technical assistance and project management guidance for all of the institutions in Balboa Park to upgrade their existing lighting and HVAC systems. The SDG&E On-Bill-Financing program will be an integral part of the financial success of this project. The Balboa Park Cultural Partnership (BPCP) has stepped forward to help coordinate energy efficiency activities. The City will leverage outreach with the institutions and work with the BPCP to assist with the technical aspects of the energy efficiency upgrades. This program would interact with all City departments that are responsible for facilities maintenance. As these energy efficiency measures are implemented, the self-sustaining marketing of the improvements will promote energy efficiency throughout Balboa Park.

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Element F - Centre City Development Corporation (CCDC) Program Component

The Downtown Community Plan estimates downtown's population to grow from 30,000 residences and 130,000 jobs in 2007 to 90,000 residences and upward of 200,000 jobs projected by 2030. Considering buildings are estimated to consume approximately 40 percent of total energy use, Center City Development Corporation ("Corporation") has initiated two Master Planning projects, a Comprehensive Lighting Masterplan and a Sustainability Masterplan and Guidelines. Each plan will be developed through a public process and will assure downtown's growth is shaped by appropriate sustainable and energy efficient measures that meet regional and state regulatory policies and goals.

c) Non-Incentive services

This is a non-resource government partnership program. All of the services delivered are non-incentive.

d) Target audience

City staff, city residents and businesses.

e) Implementation

The City of San Diego's partnership includes the following components:

- Upgrading electrical systems (lighting, heating, air conditioning, chillers, pumps, etc.) to more efficient technologies in City-owned facilities
- Partnering with the local utility and other local governments to provide education and incentives to the commercial and residential sectors on energy efficiency and conservation
- Implementing local policies and regulations fostering energy efficient new construction and remodels to meet LEED standards in the private and public sectors
- Installing self generation systems in the forms of landfill-gas-to-energy systems, hydro electric pumps, photovoltaic solar systems, and co-generation machines to reduce reliance on local utility resources
- Actively participating in partnerships with the Environmental Protection Agency (EPA), Green Building Association, Flex Your Power, and Climate Action Registry
- Actively participating in local policy advisory groups including the Sustainable Environment Advisory Board (SEAB) and the San Diego Association of Governments' energy working group
- Participating in legislative and regulatory activities at the State level
- Partnering with the local utility and other local governments to provide education and incentives to the commercial and residential sectors on energy efficiency and conservation
- Exploring revenue generating opportunities at City-owned properties including using landfill gas at closed landfills to generate electricity and to lease city owned land for the installation of utility-owned photovoltaic arrays
- Pursuing cost containment strategies including participating in rate design settlement conferences and entering into a Power Purchase Agreement for solar generated power

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5) Program Element Rationale and Expected Outcome:

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information

Table 4

	Market Transformation Planning Estimates		
Program/Element	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) Program Design to Overcome Barriers:

d) Quantitative Program Objectives:

Table 5

Program A: Government Facilities	<i>Program Target by 2009</i>	<i>Program Target by 2010</i>	<i>Program Target by 2011</i>
kWh savings			4,900,000 kWh
Therm savings			41,500 therms
Kw savings			1,250 kW
Program B: Strategic plan Support	TBD	TBD	TBD
Program C: Core Program Coordination	TBD	TBD	TBD

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6) Other Program Element Attributes: Local government Partner

a) Best Practices:

The partnership will incorporate best practices where applicable.

b) Innovation:

The City of San Diego departments are working closely together and with the community on energy issues, realizing that energy conservation is the linchpin for community sustainability, reducing greenhouse gas emissions, business development and retention, and accommodating a growing population. The Conservation Element of the City's General Plan identifies energy efficiency as a mandatory requirement for the future development of this City. This significant planning document is the culmination of successful integration with the Climate Protection Action Plan and the Sustainable Community Indicators, all of which focus on energy efficiency. The six-part proposal is achievable, innovative, and builds on the core competencies of local government and SDG&E.

c) Interagency Coordination:

Multiple departments within the City of San Diego organization will be involved in the design and outcome of the Partnership Programs. Environmental Services Department (ESD) will take the lead, and will coordinate with City Purchasing and Contracts Department, Development Services Department, City Planning and Community Investment, Fire Department, and when appropriate, other City departments. Additionally, non-City entities will be critical to the success of the Stakeholder process that will be used in three of the programs. The City will actively participate in partnerships with the Environmental Protection Agency (EPA), Green Building Association, Flex Your Power, and Climate Action Registry as well as advisory groups including the Sustainable Environment Advisory Board (SEAB) and the San Diego Association of Governments' energy working group

d) Integrated/coordinated Demand Side Management:

The city will implement an integrated approach to energy efficiency through the incorporation of renewable energy, distributed generation, energy-efficient landscaping and demand response into City projects and throughout the community.

e) Integration across resource types:

The City is actively participating in partnerships with the Environmental Protection Agency (EPA), Green Building Association, Flex Your Power, and Climate Action Registry. The City of San Diego Partnership includes a Metropolitan Waste Water District component which will increase and enhance the energy efficiency projects for Metro Wastewater Department.

f) Pilots:

Beginning with a pilot project, the City will assess how to alter City of San Diego street light design standards to include induction lighting, and manage the conversion of designated City street lights to induction lighting technology. Included in this component is the coordination of the vendor(s) during the installation conversion phase of the project. With a successful pilot project, the program can be expanded to retrofitting 37,000 light poles citywide (80% of all street lights.) Savings are anticipated to be accounted for through the SDG&E Bid program, or other

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appropriate program. This program model may be emulated by other municipalities to affect energy savings in street lighting applications.

g) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7. Partnership Program Advancement of Strategic Plan Goals and Objectives

Table 6

1-1: Develop, adopt and implement model building energy codes (and/or other green codes) more stringent than Title 24’s requirements, on both a mandatory and voluntary basis; adopt one or two additional tiers of increasing stringency.	Complete updated “Sustainable Buildings Policy” as a first step in a series of milestones in the Permit Review Process to achieve ZeroNet residential construction (2020) and commercial construction (2030), and adhere to the recently adopted General Plan which requires investment in “Green Buildings” and “Green Neighborhoods”.
1-2: Establish expedited permitting and entitlement approval processes, fee structures and other incentives for green buildings and other above-code developments.	Provide a variety of training opportunities to appropriate City staff in order to improve the permit review process; target at least 15 staff to become LEED-AP certified; and review fee structure so that it rewards energy efficiency.
1-4: Create assessment districts or other mechanisms so property owners can fund EE through city bonds and pay off on property taxes; develop other EE financing tools.	After the limited pilot project of AB 811 financing for solar panels, expand that program to include energy efficiency retrofits of homes.
1-5: Develop broad education program and peer-to-peer support to local gov’ts to adopt and implement model reach codes	Education campaign targeted to more than 10,000 City employees; High school classroom education and Youth Forum; and peer to peer presentations and outreach materials to local, state and national audiences,
1-6: Link emission reductions from “reach” codes and programs to ARB’s AB 32 program	Three-part program to reduce greenhouse gas emissions” 1) GHG emission inventory updates to the Mayor and City Council in 2009 and 2011; 2) Update the Climate

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	Protection Action Plan with external stakeholder participation; and 3) education campaign to targeted groups, including elected officials and high school students.
2-2: Dramatically improve compliance with and enforcement of Title 24 building code, and of HVAC permitting and inspection requirements (including focus on peak load reductions in inland areas).	In conjunction with Development Services Department (DSD), provide appropriate training to staff and gain support for the phased series of codes and standards that exceed Title 24.
2-3: Local inspectors and contractors hired by local governments shall meet the requirements of the energy component of their professional licensing (as such energy components are adopted).	Ensure that contract language reflects the specific criteria for contactors, and be sure that staff receives ongoing training in LEED-AP as well as other green building rating systems.
3-1: Adopt specific goals for efficiency of local government buildings, including:	Completed as per “Sustainable Building Policy “(2003) with a requirement of LEED silver or equivalent.
3-2: Require commissioning for new buildings, and re-commissioning and retro-commissioning of existing buildings.	As part of the CA Green Building Code, which is effective 2011, the City of San Diego is making compliance with this the criteria for the expedite program.
3-4: Explore creation of line item in LG budgets or other options that allow EE cost savings to be returned to the department and/or projects that provided the savings to fund additional efficiency.	Design a plan of action and gain approval by Mayor and Council.
4-1: LGs commit to clean energy/climate change leadership.	The City of San Diego is one of the regional leaders in climate change mitigation and adaptation and will continue to coordinate regional and local government efforts as well as complete the City’s GHG inventory and updated Action Plan.
4-2: Use local governments’ general plan energy and other elements to promote energy efficiency, sustainability and climate change.	The Conservation Element of the City’s General Plan is a model for the State, and with that as a foundation, additional workshops for elected officials as well as the general public will be held.
4-4: Develop local projects that integrate EE/DSM/water/wastewater end use	Increased energy efficiency upgrades in equipment and construction for water and wastewater systems; and work in conjunction with the Water Dept for public outreach.

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City of Chula Vista

4) Program Element Description and Implementation Plan

a) List of program elements

Program elements are listed and explained in the next section.

b) Overview

Building upon its past successes, the 2009-2011 SDG&E/Chula Vista Energy Efficiency Partnership’s goal is to create innovative approaches to improving community and municipal energy efficiency and achieving both direct and indirect energy savings. The Partnership will combine and leverage the resources of four City departments to deliver cost-effective, holistic opportunities for promoting energy efficiency within the community. The program components include municipal facility efficiency improvements, strengthened building energy codes and inspections, energy-saving redevelopment planning and design and community-based energy conservation education and facility assessments

Element A- Government Facilities:

Master PIP sub elements partnership addresses

A-1	Retro-fit of County and Municipal Buildings	Yes
A-2	Retro-commissioning	Yes
A-3	Integrating Demand Response	Yes
A-4	Technical Assistance	Yes
A-5	On-Bill Financing or CEC Loans	Yes

The Partnership will expand the City’s efforts to reduce municipal energy use through facility retrofits and upgrades. In addition, the program will help train municipal facility managers on better energy management practices and will complement Chula Vista’s ongoing investments in renewable energy generation. The City is investigating the use of third-party agreements for the installation and operation of renewable energy systems on municipal property. The City is also evaluating the creation of voluntary assessment districts to allow residents and businesses to install solar units (photovoltaic and hot water) with no upfront costs. For the Chula Vista Bayfront Redevelopment area, City staff and their consultants are investigating the use of a cogeneration facility to provide district heat and power to future hotel, commercial and convention center projects. These renewable and distributed generation initiatives will complement the 2009-2011 SDG&E/Chula Vista Partnership’s energy-efficiency efforts and maximize its overall impact on citywide energy demand. The City will also utilize SDG&E’s third party retro-commissioning for facility buildings.

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Element B- Strategic Plan Support:

Master PIP sub elements partnership addresses

B-1	Code Compliance	Yes
B-2	Reach Code Support	Yes
B-3	Guiding Document Support	Yes
B-4	Financing for the Community	Yes
B-5	Peer to Peer Support	Yes

Additionally the partnership will also include two other program elements described below:

Sustainable Communities Program

Building upon the current program, the Chula Vista “Sustainable Communities Program” (SCP) will further City staff’s expertise in energy conservation and green building principles, with the goal of infusing sustainable practices into every level of the planning and building process. Staff will promote these principles to customers engaged in the municipal permit and construction approval process through the City’s Internet, on the phone or in person at the Public Services Building. The SCP will also allow the Planning and Building Department to investigate and update its existing programs, guidelines and regulations to reflect the advances that have been made in the industry and to coordinate with new energy-related programs.

Energy-Efficient Community Development Initiative:

Through the current partnership with SDG&E, the City has begun to demonstrate how energy-efficient and renewable energy technologies and energy conservation (EERE & EC) can be cost-effectively integrated into large-scale development projects to reduce energy consumption and greenhouse gas emissions. The proposed program will expand upon and leverage this work through additional research, demonstration and technical assistance initiatives that will enable developers and builders to design and construct high-efficiency and zero-net-energy projects at greenfield, grayfield and brownfield sites throughout the City. Further, the program will support a full-time subject matter expert (SME) to generate and manage these initiatives and to assist the Economic Development Office and Planning Department attract businesses and development projects that will enhance the City’s energy-efficiency and emission reduction goals. The program will:

Element C- Core Program Coordination:

Master PIP sub elements partnership addresses

C-1	Outreach and Education	Yes
C-2	Third Party Program Coordination	Yes
C-3	Technical Assistance	Yes

The EmPower Chula Vista program:

The program is designed to complement San Diego Gas & Electric’s residential and commercial

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energy efficiency programs by providing trained City staff to engage and educate Chula Vista businesses, residents and contractors about energy-saving opportunities. City staff are able to play a unique role in delivering energy efficiency programs to their community, both because their more proximate relationship with citizens, and because they are able to leverage other municipal services/processes to maximize outreach effectiveness. For the 2009-2011 Energy Efficiency Partnership, the City of Chula Vista will build upon its successful EmPower Chula Vista program by broadening its targeted audience and its focus on “plug-load” and energy consumption behavior

Element D- CFL Recycling:

Due to the recent market transformation from older incandescent lighting to energy-efficient Compact Fluorescent Lights (CFL), there is a growing community demand for opportunities to properly dispose of CFL's. City staff will work to establish convenient CFL disposal opportunities for the South Bay community. At least 6 permanent CFL disposal sites and 4 annual disposal events will be established in the South Bay area.

c) Non-Incentive services

This is a non-resource government partnership program. All of the services delivered are non-incentive.

d) Target audience

The program will mainly serve City of Chula Vista residents and businesses estimated at 225,000 and 13,000, respectively. It is also anticipated that the SDG&E/Chula Vista Partnership may partially serve neighboring communities

e) Implementation

Because of the current Partnership program, the City of Chula Vista has a thorough understanding of the staffing, budget and time requirements necessary to successfully implement the new program. The Partnership will be managed internally by a Partnership Grant Administrator who will be the primary contact for SDG&E and coordinate overall program negotiations, implementation, reporting and invoicing. Each program component (e.g. Municipal Facility Efficiency Improvements, Energy-Efficiency Community Development Initiative) will be assigned a staff “lead” who is responsible for individual component coordination and implementation. All program component leads are current City employees and their positions are already included in the next City fiscal year budget. Partnership coordination with SDG&E will occur during quarterly Progress Report meetings and more frequent, informal meetings. Furthermore, the City has already identified suitable facility energy-efficiency retrofit projects and received approval to pursue \$1.4 million in project financing for the next Partnership cycle. As a result, the 2009-2011 SDG&E/Chula Vista Energy Efficiency Partnership will be implemented immediately upon start of the new portfolio cycle.

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5) Program Element Rationale and Expected Outcome:

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information

Table 4

	Market Transformation Planning Estimates		
Program/Element	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) Program Design to Overcome Barriers:

d) Quantitative Program Objectives:

Table 5

Program A: Government Facilities	<i>Program Target by 2009</i>	<i>Program Target by 2010</i>	<i>Program Target by 2011</i>
kWh savings			600,000 kWh
Therm savings			15,000 therms
Kw savings			150 kW
Program B: Strategic plan Support	TBD	TBD	TBD
Program C: Core Program Coordination	TBD	TBD	TBD

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6) Other Program Element Attributes:

a) Best Practices:

The program design incorporates various best practice elements. Specific items include: Program Theory and Design: Program reflects an understanding of local market conditions and includes a sound program plan

b) Innovation:

The 2009-2011 SDG&E/Chula Vista Energy Efficiency Partnership's goal is to create innovative approaches to improving community and municipal energy efficiency and achieving both direct and indirect energy savings.

c) Interagency Coordination:

The Partnership will be managed internally by a Partnership Grant Administrator who will be the primary contact for SDG&E and coordinate overall program negotiations, implementation, reporting and invoicing. Each program component (e.g. Municipal Facility Efficiency Improvements, Energy-Efficiency Community Development Initiative) will be assigned a staff "lead" who is responsible for individual component coordination and implementation.

d) Integrated/coordinated Demand Side Management:

For the Municipal Facility Efficiency Improvement component, the City will begin with whole-building energy evaluations of its largest facilities. Chula Vista will assess the feasibility of energy efficiency improvements based on their estimated direct energy savings, peak demand reduction, annual cost savings, implementation costs and incentive availability.

e) Integration across resource types:

The City of Chula Vista has three main energy-related policies – the Energy Strategy & Action Plan, Carbon Dioxide Reduction Plan and Municipal Building Energy Efficiency Policy – which provide a framework for an integrated approach to energy efficiency. All three policies promote the incorporation of renewable energy, distributed generation, energy-efficient landscaping and demand response into City projects and throughout the community. As a result, over 70 kW of photovoltaic units have been installed on municipal facilities, solar panel permit application fees for private projects have been reduced (from \$550 on average to a \$45 flat fee), municipal building codes have been amended to require pre-plumbing for solar hot water in new homes and over 2,000 additional shade trees have been planted on public rights-of-way over the last five years. The City is also a strong supporter of "Smart Grid" infrastructure within its jurisdiction that will help manage local energy demands and costs.

Chula Vista will continue to pursue an integrated approach during the 2009-2011 program cycle. For municipal facilities, the City is investigating the use of third-party agreements for the installation and operation of renewable energy systems on municipal property. The City is also evaluating the creation of voluntary assessment districts to allow residents and businesses to install solar units (photovoltaic and hot water) with no upfront costs and guaranteed long-term financing. For the Chula Vista Bayfront Revdevelopment area, City staff and their consultants are investigating the use of a cogeneration facility to provide district heat and power to future hotel, commercial and convention center projects. These renewable and distributed generation

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initiatives will complement the 2009-2011 SDG&E/Chula Vista Partnership’s energy-efficiency efforts and maximize its overall impact on citywide energy demand.

f) Pilots:

Emerging Technology pilot opportunities will be explored.

g) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Partnership Program Advancement of Strategic Plan Goals and Objectives

Table 6

<p>1-1: Develop, adopt and implement model building energy codes (and/or other green codes) more stringent than Title 24’s requirements, on both a mandatory and voluntary basis; adopt one or two additional tiers of increasing stringency.</p>	<p>The CV/SDG&E Partnership will investigate and present a comprehensive Green Building policy to the Chula Vista City Council for review and consideration. The policy will incorporate direct energy savings through mandatory energy efficiency standards above current Title-24 and indirect energy savings through enhanced water conservation. The policy will be strengthened by the Partnership’s complementary research efforts into identifying and overcoming typical economic and institutional barriers associated with incorporating advanced efficiency and renewable energy technologies in building and community-level designs.</p>
<p>1-2: Establish expedited permitting and entitlement approval processes, fee structures and other incentives for green buildings and other above-code developments.</p>	<p>The CV/SDG&E Partnership will improve the efficiency and effectiveness of its permitting process by training pertinent staff on State energy efficiency regulations and emerging technologies. For development projects exceeding the City’s energy efficiency standards, expedited permitting will be available through its GreenStar program.</p>
<p>1-4: Create assessment districts or other mechanisms so property owners can fund EE through city bonds and pay off on property taxes; develop other EE financing tools.</p>	<p>Partnership funds will be used to assist in developing a mechanism to allow building efficiency improvement projects to be financed through property tax rolls/assessment districts. The Chula Vista City Council has already approved the framework for such a program as part of its 7 new</p>

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	climate protection measures.
1-5: Develop broad education program and peer-to-peer support to local gov'ts to adopt and implement model reach codes	Chula Vista has historically and will continue to provide direct assistance on energy efficiency, renewable energy and demand response technologies and climate action policies to other South Bay cities through staff exchange programs and half-day workshops.
1-6: Link emission reductions from "reach" codes and programs to ARB's AB 32 program	Chula Vista through its active memberships with ICLEI and the California Climate Action Registry will continue performing annual carbon emissions inventories to help measure program success and adaptively manage program implementation.
2-2: Dramatically improve compliance with and enforcement of Title 24 building code, and of HVAC permitting and inspection requirements (including focus on peak load reductions in inland areas).	The CV/SDG&E Partnership for the 2009-2011 program cycle includes a special emphasis on Title 24 compliance by developing an "Advanced Energy Efficiency Inspection Checklist" to ensure that energy standards are properly verified.
2-3: Local inspectors and contractors hired by local governments shall meet the requirements of the energy component of their professional licensing (as such energy components are adopted).	As specific professional licenses' energy-related components are adopted, the City will use Partnership funding to help revise its current "Environmentally Preferred Purchasing Policy," as appropriate.
3-1: Adopt specific goals for efficiency of local government buildings, including:	Chula Vista currently requires its new and renovated municipal buildings to exceed Title -24 by 20%, incorporate passive heating/cooling design, include on-site renewable generation and use ENERGY STAR-qualified products. The CV/SDG&E Partnership will allow existing facilities to be renovated to help meet these progressive standards.
3-2: Require commissioning for new buildings, and re-commissioning and retro-commissioning of existing buildings.	As part of its municipal facility retrofit component, the CV/SDG&E Partnership will incorporate opportunities to re-commission existing buildings.
3-4: Explore creation of line item in LG budgets or other options that allow EE cost savings to be returned to the department and/or projects that provided the savings to fund additional efficiency.	The Partnership will allow the City to continue energy efficiency improvement projects at its building and facilities and use the resulting energy cost savings to repay California Energy Commission loans and support additional efficiency investments.
3-5: Develop innovation Incubator that competitively selects initiatives for inclusion in LG pilot projects.	Through the Partnership's "Energy-Efficient Economic Development Initiative," the City will collaborate with building industry and business partners to demonstrate model energy efficiency

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	and conservation technology applications.
4-1: LGs commit to clean energy/climate change leadership.	Chula Vista has been a local and regional leader in climate action policies and programs and has committed to reducing its emissions to 20% below 1990 levels by 2010. In 2008 the City adopted 7 new carbon-reducing measures which the Partnership funding will help support.
4-2: Use local governments' general plan energy and other elements to promote energy efficiency, sustainability and climate change.	The City's General Plan, which was updated in 2005, contains guidance on energy efficiency and climate-friendly "Smart Growth." The Partnership will provide funding for an Associate Planner to review, revise and implement energy-saving land use policies in various Specific Area Plans (SPAs).
4-4: Develop local projects that integrate EE/DSM/water/wastewater end use	The CV/SDG&E Partnership provides the staffing resources to broadly integrate energy efficiency and demand side management into myriad community programs (such as business & residential energy assessments) and public improvement projects (such as wastewater treatment plants, sewer pump stations, street lighting & landscape design).
4-5: Develop EE-related "carrots" and "sticks" using local zoning and development authority	As previously mentioned, the Partnership will provide funding for an Associate Planner to review, revise and implement energy-saving land use policies. For example, the City's Urban Core Specific Plan currently requires projects receiving City financial support to meet LEED building certification standards.

County of San Diego

4) Program Element Description and Implementation Plan

a) List of program elements

Program elements are listed and explained in the next section.

b) Overview

The County of San Diego/SDGE Energy Initiative Partnership (COSD/SDGE EIP) is a local program within the San Diego County portion of the SDG&E service territory. This is a continuing program that identifies and implements energy efficiency projects, renewable energy projects and demand response strategies for large and small County government office and institutional facilities, County residential public housing units, County street lights and traffic signals. The Partnership will also promote the County's Green Building Program and community awareness of energy efficiency for other County agencies, regional organizations and citizens.

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Element A- Government Facilities:

Master PIP sub elements partnership addresses

A-1	Retro-fit of County and Municipal Buildings	Yes
A-2	Retro-commissioning	Yes
A-3	Integrating Demand Response	Yes
A-4	Technical Assistance	Yes
A-5	On-Bill Financing or CEC Loans	Yes

The County of San Diego has an ongoing capital improvement/major maintenance plan (CIP) for County facilities. The County will also continue to implement the Central Plant Energy Monitoring & Optimization program; the remote energy monitoring and controls systems to ensure efficient operation for up to 12 chiller plants; and continue implementation of energy management systems at County facilities greater than 100kW.

The County will identify and implement effective demand response strategies for those County sites that will be subject to critical peak pricing. The County will implement demand response strategies at all County facilities greater than 100kW and investigate demand response strategies for County facilities between 20kW and 100kW.

Element B- Strategic Plan Support:

Master PIP sub elements partnership addresses

B-1	Code Compliance	Yes
B-2	Reach Code Support	No
B-3	Guiding Document Support	No
B-4	Financing for the Community	Yes
B-5	Peer to Peer Support	Yes

The County will Provide consistent green building practices into new construction requirements. The County will continue best management practices networking with other Local Governments and provide information/assistance as part of California Counties Facility Services Association, and California County Architects and Engineers Association Assistance with identification of energy project resources available to Local Government.

Element C- Core Program Coordination:

Master PIP sub elements partnership addresses

C-1	Outreach and Education	Yes
C-2	Third Party Program Coordination	Yes
C-3	Technical Assistance	Yes

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The partnership will provide education and outreach to County employees, public agencies and other regional organizations on energy efficiency, demand response, emerging technologies and green building practices. Initiatives will include: demand response education for County facility maintenance managers; web page tutorial on demand response education for up to 17,000 County staff; outreach to County residential and business customers in unincorporated areas. Up to 30 joint training/education sessions will be provided to County employees (residents) by both SDG&E and County staff. The County will also provide energy audits and assistance with retrofits to residents of low income housing through Department of Housing and Community Development

Element D- CFL Recycling:

The County will implement residential CFL recycling through the Department of environmental Health.

c) Non-Incentive services

This is a non-resource government partnership program. All of the services delivered are non-incentive.

d) Target audience

County residents, County staff, facility managers.

e) Implementation

The County Energy Manager will spend approximately 75 percent of his time for the duration of the Partnership, working with SDG&E staff, to achieve the objectives of this program. Other County personnel will participate, as required, to implement specific projects and educational initiatives. A list of facilities that can potentially participate will be submitted to the California Center for Sustainable Energy (CCSE) for enrollment into the Energy Savings Bid Program. The CCSE will then assist in determining which facilities are good candidates for energy efficiency projects. A ranking of the best candidate projects will be created and targeted for implementation. Project implementation will be coordinated through County Project Management, the SDGE Program Manager and the Energy Savings Bid Program Manager.

SDGE and County personnel will provide joint training/education sessions to County employees, regional agencies and other interested parties. The County's outreach/education efforts offer a long-term, comprehensive educational approach to energy efficiency, renewable energy and green building concepts for participants

**2009-2011 Energy Efficiency Programs
Local Government Partnerships
Program Implementation Plan**

5) Program Element Rationale and Expected Outcome:

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information

Table 4

	Market Transformation Planning Estimates		
Program/Element	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) Program Design to Overcome Barriers:

d) Quantitative Program Objectives:

Table 5

Program A: Government Facilities	<i>Program Target by 2009</i>	<i>Program Target by 2010</i>	<i>Program Target by 2011</i>
kWh savings			4,000,000 kWh
Therm savings			75,000 therms
Kw savings			775 kW
Program B: Strategic plan Support	TBD	TBD	TBD
Program C: Core Program Coordination	TBD	TBD	TBD

**2009-2011 Energy Efficiency Programs
Local Government Partnerships
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6) Other Program Element Attributes:

a) Best Practices:

The partnership will incorporate best practices where applicable.

b) Innovation:

The County desires to be at the forefront of achieving California's vision of 2020/2030 net zero energy targets and goals for new construction. In light of this goal, the County would like to pursue a pilot project that investigates the feasibility of a net zero site energy use building at a public safety building of approximately 30,000 square feet. The feasibility study is estimated at \$30,000. The additional design fee is estimated at 1 percent of construction or \$140,000. The addition of envelope measures, ultra high efficiency HVAC, enhanced automation, daylighting, solar water heating and photovoltaics are estimated at \$1.7 million.

c) Interagency Coordination:

The County's Strategic Energy Plan identifies ten goals that include not only energy efficiency, but also demand responsiveness, procurement (including alternative forms of energy), renewable energy (solar), sustainability in new construction, energy education, collaboration with other public agencies and regional organizations. Energy studies at County facilities will address all these goals, not just energy efficiency

d) Integrated/coordinated Demand Side Management:

The County of San Diego has developed and implemented a Strategic Energy Plan and is currently updating this plan for specific energy consumption reductions, demand responsiveness targets, renewable energy supplies for Fiscal Years 2009-2010 and 2010-2011. The Plan identifies ten goals that will continue to be pursued beyond 2011 including energy efficiency, electrical demand reduction, energy management planning for legislative changes impacting energy efficiency and demand response, energy procurement, renewable energy, construction standards, internal and regional energy efficiency outreach, collaboration with other agencies, regulatory and legislative monitoring and energy monitoring and reporting

e) Integration across resource types:

The County has several "Green Initiatives" including LEED Certification for new construction, porous exterior surfaces to reduce storm water pollution, hybrid fleet vehicles, incentives for green building in the permitting process, a renewable energy plan, LED traffic signals, recycling program and affordable housing energy efficiency.

f) Pilots:

The County desires to be at the forefront of achieving California's vision of 2020/2030 net zero energy targets and goals for new construction. In light of this goal, the County would like to pursue a pilot project that investigates the feasibility of a net zero site energy use building at a public safety building of approximately 30,000 square feet. The feasibility study is estimated at \$30,000. The additional design fee is estimated at 1 percent of construction or \$140,000. The addition of envelope measures, ultra high efficiency HVAC, enhanced automation, daylighting, solar water heating and photovoltaics are estimated at \$1.7.

**2009-2011 Energy Efficiency Programs
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g) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Partnership Program Advancement of Strategic Plan Goals and Objectives:

Table 6

<p>1-1: Develop, adopt and implement model building energy codes (and/or other green codes) more stringent than Title 24’s requirements, on both a mandatory and voluntary basis; adopt one or two additional tiers of increasing stringency.</p>	<p>The County will provide consistent green building practices into new construction requirements. The county will continue with its green building programs. . The County has developed a Green Building Plan to implement LEED certification of new County facilities and promote green building practices throughout the region</p>
<p>1-2: Establish expedited permitting and entitlement approval processes, fee structures and other incentives for green buildings and other above-code developments.</p>	<p>The county will provide consistent green building practices into new construction requirements. The county will continue with its green building programs. The County has developed a Green Building Plan to implement LEED certification of new County facilities and promote green building practices throughout the region</p>
<p>1-4: Create assessment districts or other mechanisms so property owners can fund EE through city bonds and pay off on property taxes; develop other EE financing tools.</p>	<p>The County is pursuing implementing a financing district for energy efficiency and solar energy modeled on AB811.</p>
<p>1-7: Develop energy efficiency-related “carrots and sticks” using local zoning and development authority.</p>	<p>The county will continue with its green building programs. . The County has developed a Green Building Plan to implement LEED certification of new County facilities and promote green building practices throughout the region</p>
<p>2-2: Dramatically improve compliance with and enforcement of Title 24 building code, and of HVAC permitting and inspection requirements (including focus on peak load reductions in inland areas).</p>	<p>The County will investigate demand response strategies for County facilities between 20kW and 100kW and audit buildings and implement proven innovative technologies for building envelope thermal efficiency</p>

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<p>3-1: Adopt specific goals for efficiency of local government buildings.</p>	<p>Based on comparative analysis and benchmarking, staff will identify and prioritize facilities with highest potential for cost effective energy improvements. Staff will prepare and implement priority projects for these facilities.</p>
<p>3-2: Require commissioning for new buildings, and re-commissioning and retro-commissioning of existing buildings.</p>	<p>The county will continue implementation of Central Plant Energy Monitoring & Optimization program; implementing remote energy monitoring and controls systems to ensure efficient operation for up to 12 chiller plants and continued implementation of energy management systems at County facilities greater than 100kW</p>
<p>3-3: Improve access to favorable financing terms that create positive cash flow from energy efficiency/DSM savings</p>	<p>Nonresidential financing for appropriate projects, focusing on pilot project development and implementation with SDG&E. Staff will work with SDGE to identify projects that will benefit from on-bill financing</p>
<p>4-1: LGs commit to clean energy/climate change leadership.</p>	<p>The County participates in regional and statewide energy planning groups that promote energy efficiency, demand responsiveness and renewable energy and strive for reduction in the rate of global warming.</p>
<p>4-2: Use local governments' general plan energy and other elements to promote energy efficiency, sustainability and climate change.</p>	<p>The County of San Diego has developed and implemented a Strategic Energy Plan and is currently updating this plan for specific energy consumption reductions, demand responsiveness targets, renewable energy supplies for Fiscal Years 2009-2010 and 2010-2011. The Plan identifies ten goals that will continue to be pursued beyond 2011 including energy efficiency, electrical demand reduction, energy management planning for legislative changes impacting energy efficiency and demand response, energy procurement, renewable energy, construction standards, internal and regional energy efficiency outreach, collaboration with other agencies, regulatory and legislative monitoring and energy monitoring and reporting.</p>
<p>4-3: Statewide liaison to assist local governments in energy efficiency, sustainability, and climate change.</p>	<p>The county will Continue best management practices networking with other Local Governments and provide information/assistance as part of California Counties Facility Services Association, and California County Architects and Engineers Association</p>

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<p>4-4: Develop local projects that integrate EE/DSM/water/wastewater end use</p>	<p>The County has several “Green Initiatives” including LEED Certification for new construction, porous exterior surfaces to reduce storm water pollution, hybrid fleet vehicles, incentives for green building in the permitting process, a renewable energy plan, LED traffic signals, recycling program and affordable housing energy efficiency</p>
<p>4-5: Develop EE-related “carrots” and “sticks” using local zoning and development authority</p>	<p>The county will continue with its green building programs. . The County has developed a Green Building Plan to implement LEED certification of new County facilities and promote green building practices throughout the region.</p>

**2009-2011 Energy Efficiency Programs
Local Government Partnerships
Program Implementation Plan**

City of San Juan Capistrano

4) Program Element Description and Implementation Plan

a) List of program elements

Program elements are listed and explained in the next section.

b) Overview

The City of San Juan Capistrano will partner with SDG&E’s Energy Efficiency Local Government Partnership Program in order to reduce energy consumption, achieve long and short term energy savings goals, explore demand response opportunities and serve as a model city for neighboring communities as a leader in sustainability.

Element A- Government Facilities:

Master PIP sub elements partnership addresses

A-1	Retro-fit of County and Municipal Buildings	Yes
A-2	Retro-commissioning	No
A-3	Integrating Demand Response	Yes
A-4	Technical Assistance	Yes
A-5	On-Bill Financing or CEC Loans	Yes

City will audit all its municipal facilities and identify opportunities for retrofit in order to lead by example, by reducing its own energy consumption. The City will work closely with SDG&E to identify financial rebates and incentives to accomplish this goal. To build capacity from within, City staff will participate in SDG&E and CCSE training opportunities and pursue any applicable certification programs.

Element B- Strategic Plan Support:

Master PIP sub elements partnership addresses

B-1	Code Compliance	Yes
B-2	Reach Code Support	Yes
B-3	Guiding Document Support	No
B-4	Financing for the Community	No
B-5	Peer to Peer Support	Yes

The City will explore opportunities of adoption of any necessary resolutions, ordinances or code changes as applicable to establish its energy goals. The City will also share with neighboring cities and agencies best management practices and technical knowledge

**2009-2011 Energy Efficiency Programs
Local Government Partnerships
Program Implementation Plan**

Element C- Core Program Coordination:

Master PIP sub elements partnership addresses

C-1	Outreach and Education	Yes
C-2	Third Party Program Coordination	Yes
C-3	Technical Assistance	Yes

In partnership with SDG&E, the City will join forces to assist in reaching out and educating the largest commercial energy accounts and identifying opportunities to reduce energy consumption, through participation in applicable SDG&E programs. The City will also outreach to the residential community, identifying various rebate and incentive programs. This effort will be achieved through community events, website information, and distribution of educational material. Additionally the city will expand its successful education campaign to include energy efficiency and energy conservation. Education and Outreach to hard to reach groups, such as the low income community, seniors and the Hispanic Community.

Element D-CFL Recycling:

The City will take the lead to coordinate CFL recycling amongst the South County cities in the SDG&E service territory.

c) Non-Incentive services

This is a non-resource government partnership program. All of the services delivered are non-incentive.

d) Target audience

The main target audience will be the City of San Juan Capistrano employees, residents and businesses. Through peer to peer outreach efforts additional target audience will include Orange County city employees and residents.

e) Implementation

The City of San Juan Capistrano’s environmental division manager is a one-man team and in order to achieve the energy reduction goals described in the sections above, additional staffing is necessary. To implement this program, the city is requesting one full time employee to act as a project manager, under the supervision of the environmental division manager. The proposed position would be a management analyst, with an environmental background. The project manager would be responsible for the implementation of the following:

- Coordination with SDG&E to develop a City Energy master plan
- Project Management of facilities retrofits and energy reduction.
- Commercial and Residential outreach and education on Energy Efficiency, Demand Response and SDG&E programs and incentives.
- Peer to Peer program implementation in Orange County.
- Education and Outreach to local community including hard to reach areas
- Staff training.

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- Additional opportunities for SJC to reach its goals of achieving its sustainability and energy reduction goals.

5) Program Element Rationale and Expected Outcome:

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information

Table 4

Program/Element	Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) Program Design to Overcome Barriers:

d) Quantitative Program Objectives:

Table 5

Program A: Government Facilities	<i>Program Target by 2009</i>	<i>Program Target by 2010</i>	<i>Program Target by 2011</i>
kWh savings			50,000 kWh
Therm savings			200
Program B: Strategic plan Support	TBD	TBD	TBD
Program C: Core Program Coordination	TBD	TBD	TBD

**2009-2011 Energy Efficiency Programs
Local Government Partnerships
Program Implementation Plan**

6) Other Program Element Attributes: Local government Partner:

a) Best Practices:

The program design incorporates various best practice elements.

b) Innovation:

The partnership will incorporate innovative solutions to achieving its objectives.

c) Interagency Coordination:

The City will seek to enhance its environmental division and enact a number of initiatives aimed at reducing energy use

d) Integrated/coordinated Demand Side Management:

The City will explore opportunities to incorporate demand response into city projects.

e) Integration across resource types:

The City has been very proactive recently in the area of sustainability and energy related initiatives. San Juan Capistrano has an Environmental Services department that has been very active in Energy Efficient product exchanges, E-waste events and a Shade Tree Program. The city's website even lists energy saving facts for residents and businesses as well as links to other resources for energy efficiency, conservation, demand response and renewables. Regular public outreach about these sustainable efforts is publicized through mailings and local newspapers and at community events. On December 18, 2007, the City of San Juan Capistrano adopted a resolution approving a sustainability charter establishing sustainability guiding principles. Among the ten Guiding Principles set forth by the city council was the following statement:

“The City will also act as a strong advocate for the development and implementation of model programs and innovate approaches by regional, state and national government that embody the goals of sustainability...Threats to the long-term sustainability of San Juan Capistrano are multi-sector in their causes and require multi-sector solutions. Partnerships among city government, businesses, residents and all community stakeholders are necessary to achieve a sustainable community.”

f) Pilots: The City will coordinate with SDG&E's Emerging Technologies program for any applicable pilot program potential.

g) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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Local Government Partnerships
Program Implementation Plan**

San Diego Port Authority

4) Program Element Description and Implementation Plan

a) List of program elements

Program elements are listed and explained in the next section.

b) Overview

The goal of this partnership is to enhance the Port’s role in the region as an environmental steward by maximizing energy efficiency on Port tidelands and providing outreach to the general public. The partnership is comprised of five integrated elements: an Energy Efficiency Education and Outreach Program, a Land Use and Development Opportunities Program, a Facilities Retrofits Program a Sustainable Energy Plan, and participation in a Chula Vista Bayfront Sustainability Plan.

Element A- Government Facilities:

Master PIP sub elements partnership addresses

A-1	Retro-fit of County and Municipal Buildings	Yes
A-2	Retro-commissioning	No
A-3	Integrating Demand Response	Yes
A-4	Technical Assistance	Yes
A-5	On-Bill Financing or CEC Loans	Yes

The Facilities Retrofits Program focuses on maximizing energy efficiency, demand response and renewable energy in Port facilities. A reliable and updated infrastructure will support the future needs of the Port and the State of California. This program will include audits at all Port facilities to quantify opportunities and prioritize actions to reduce kWh, kW and therms used by Port operations, and reduce greenhouse gas emissions.

Element B- Strategic Plan Support:

Master PIP sub elements partnership addresses

B-1	Code Compliance	No
B-2	Reach Code Support	No
B-3	Guiding Document Support	No
B-4	Financing for the Community	No
B-5	Peer to Peer Support	Yes

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The Land Use and Development Opportunities Program will incorporate energy efficiency into the Port’s operational master planning efforts by providing design guidelines, identifying incentives for the use of energy-efficient design and equipment, and installing energy efficient equipment in new development projects for Port facilities. The Port proposes to incorporate sustainable design early in the development process of its facilities by facilitating energy efficiency charettes.

Element C- Core Program Coordination:

Master PIP sub elements partnership addresses

C-1	Outreach and Education	Yes
C-2	Third Party Program Coordination	Yes
C-3	Technical Assistance	Yes

The Energy Efficiency Education and Outreach Program will increase the awareness of Port employees, tenants and the general public about energy efficiency opportunities, including those available through SDG&E’s current portfolio of energy efficiency programs. The Program will involve the development of a campaign to educate Port employees and tenants on energy conservation and the Energy Roadmap initiatives developed between the Port and SDG&E. Community outreach will be conducted through a public education program and public awareness campaign. Additionally, a plan will be developed to educate Port tenants on sustainable energy management. This plan will also identify SDG&E’s role in assisting tenants in implementing energy efficiency retrofits and financing options through SDG&E’s current portfolio of energy efficiency programs. Sun Harbor Marina, a LEED certified marina on Port tidelands, is a potential model facility.

Element D- Sustainable Energy Plan:

The Sustainable Energy Plan will be created through the partnership between the Port and SDG&E. This plan will assess the Port’s current operational energy demand, identify opportunities to reduce this demand or generate cleaner energy, and suggest strategies for policies and programs that will achieve an energy-efficient operation. Objectives include:

- Assess the Port’s current operational energy demand and energy costs.
- Identify and evaluate the factors likely to affect future energy supplies, demand and costs.
- Recommend strategies to reduce the Port’s dependence on fossil fuels.
- Identify tools to allow Port employees to use energy in a smarter and more efficient manner.
- Develop programs that reduce the Port’s operational energy use, both during peak and off-peak periods, without affecting the quality of services provided.
- Identify opportunities to use clean, renewable energy within Port operations to deliver economic and environmental benefits.
- Identify strategies to reduce peak demand from Port operations and to participate in demand response (mechanisms to manage the demand from customers in response to supply conditions).

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- Identify opportunities to increase commissioning in Port facilities.
- Identify opportunities to take advantage of distributed generation (small-scale power generation technologies located close to where electricity is used to provide an alternative to or an enhancement of the traditional electric power system) at Port facilities.
- Recommend administrative and legislative actions to implement such policies, objectives and strategies.

c) Non-Incentive services

This is a non-resource government partnership program. All of the services delivered are non-incentive.

d) Target audience

Port facility managers and support staff, all Port employees. Port tenants and local businesses. All members of the Port association.

e) Implementation

The Port intends to accomplish the objectives of the Energy Efficiency Program by dedicating staff and resources to sustainability efforts as part of its adherence to the Environmental Sustainability Policy. Energy conservation is a primary component of the Port’s sustainability efforts, and several Port departments are dedicated to achieving energy efficiency through various means. The Port also intends to include with the Marketing and Communications Departments and their consultants to accomplish effective outreach and education by overcoming barriers in Port employees, tenants and the general public.

5) Program Element Rationale and Expected Outcome:

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information

Table 4

	Market Transformation Planning Estimates		
Program/Element	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

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Refer to the overarching PIP section.

c) Program Design to Overcome Barriers:

d) Quantitative Program Objectives:

Table 5:

Program A: Government Facilities	<i>Program Target by 2009</i>	<i>Program Target by 2010</i>	<i>Program Target by 2011</i>
kWh savings			810,000 kWh
Therm savings			3,450 therms
Kw savings			203 kW
Overall reduction savings			5% reduction in energy consumption
Program B: Strategic plan Support	TBD	TBD	TBD
Program C: Core Program Coordination	TBD	TBD	TBD

6) Other Program Element Attributes:

a) Best Practices:

The partnership will incorporate best practices where applicable.

b) Innovation:

The Port has attempted to align the goals of the conceptual proposal for the Energy Efficiency Program with the local government strategic planning process.

c) Interagency Coordination:

The Port will coordinate with the Marketing and Communications Departments and their consultants to accomplish effective outreach and education by overcoming barriers in Port employees, tenants and the general public.

d) Integrated/coordinated Demand Side Management:

The Port will utilize an integrated approach in the implementation of the Energy Efficiency Program. The proposed Sustainable Energy Plan will incorporate strategies to decrease the Port's peak demand, participate in demand response, incorporate alternative energy where feasible, evaluate the factors likely to affect future energy supplies, and identify opportunities to take advantage of appropriately loaded distributed generation. Additionally, the

**2009-2011 Energy Efficiency Programs
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goals of the Port’s Green Port Program involve maximizing energy efficiency and utilizing alternative energy sources, thereby committing the Port to strive for an integrated approach to energy management.

e) Integration across resource types:

The Port has demonstrated a desire to integrate across resource types through its Environmental Sustainability Policy which will achieve long-term environmental, economic and societal benefits through resource conservation, waste reduction and pollution prevention. A green Port program is being developed to accomplish the objectives of the Policy. The Program consists of the following six categories: water, energy, air, waste management, sustainable development, and sustainable business practices. These categories were selected because they are the primary ways in which Port operations impact the environment. The development of long-term goals, objectives and targets is a critical component of the Program. Long-term goals and objectives have been established within each of the six categories, and targets that support the goals and objectives will be established on an annual basis, beginning in 2008.

f) Pilots:

The Port will coordinate with SDG&E’s Emerging Technologies program for any applicable pilot program potential.

g) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Partnership Program Advancement of Strategic Plan Goals and Objectives:

Table 6

1-1: Develop, adopt and implement model building energy codes (and/or other green codes) more stringent than Title 24’s requirements, on both a mandatory and voluntary basis; adopt one or two additional tiers of increasing stringency.	The Port will explore opportunities to develop model building energy codes and green code standards.
3-1: Adopt specific goals for efficiency of local government buildings.	The Port established a goal of 5% reduction on Port facilities by 2011.
3-2: Require commissioning for new buildings, and re-commissioning and retro-commissioning of existing	The Port will explore opportunities to implement commissioning and re-commissioning of existing buildings. The Port will also explore opportunities

**2009-2011 Energy Efficiency Programs
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buildings.	to benchmark its facilities.
4-1: LGs commit to clean energy/climate change leadership.	The Port has committed to climate change leadership through its Environmental Sustainability Policy which will achieve long-term environmental, economic and societal benefits through resource conservation, waste reduction and pollution prevention. A green Port program is also being developed to accomplish the objectives of the Policy.
4-2: Use local governments' general plan energy and other elements to promote energy efficiency, sustainability and climate change.	The Sustainable Energy Plan will be created through the partnership between the Port and SDG&E. This plan will assess the Port's current operational energy demand, identify opportunities to reduce this demand or generate cleaner energy, and suggest strategies for policies and programs that will achieve an energy-efficient operation
4-4: Develop local projects that integrate EE/DSM/water/wastewater end use	The partnership will incorporate strategies to decrease the Port's peak demand, participate in demand response, incorporate alternative energy where feasible, evaluate the factors likely to affect future energy supplies, and identify opportunities to take advantage of appropriately loaded distributed generation
4-5: Develop EE-related "carrots" and "sticks" using local zoning and development authority	The Port will explore opportunities to work with its tenants to incentivize energy efficiency within its development authority.

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Local Government Partnerships
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San Diego Association of Governments (SANDAG)

4) Program Element Description and Implementation Plan

a) List of program elements

Program elements are listed and explained in the next section.

b) Overview

The SANDAG Partnership will take advantage of its capacity as the regional planning organization to provide outreach, planning and technical assistance to its member agencies on energy and climate change. SANDAG, in coordination with SDG&E’s Emerging Cities program, will develop comprehensive energy management plans for its participating member agencies which will address energy efficiency, renewable energy, and carbon dioxide emissions among other sustainability measures for municipal buildings as well as transportation and land use decisions

**Element A- Government Facilities:
Master PIP sub elements partnership
addresses**

A-1	Retro-fit of County and Municipal Buildings	No
A-2	Retro-commissioning	No
A-3	Integrating Demand Response	No
A-4	Technical Assistance	No
A-5	On-Bill Financing or CEC Loans	No

Not directly applicable. SANDAG will serve as a supporting role for its member cities in all of the sub elements through the energy management plans. See Emerging Cities PIP for more information.

Element B- Strategic Plan Support:

**Master PIP sub elements partnership
addresses**

B-1	Code Compliance	No
B-2	Reach Code Support	No
B-3	Guiding Document Support	Yes
B-4	Financing for the Community	Yes
B-5	Peer to Peer Support	Yes

SANDAG will serve as a supporting role to its member agencies by recommending reach codes in the energy management plans where applicable (refer to the Emerging cities PIP for further information). Furthermore the SANDAG partnership supports the Strategic Plan in the following manner:

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- The partnership will pursue the development and promotion of suitable “green” or sustainability standard and will support the enhancement and enforcement of California building energy Codes & Standards and will evaluate advancing energy efficiency through local ordinances.
- Partnership will support the enhancement and enforcement of California building energy Codes & Standards and will look into above code certifications like LEED
- Partnership will promote quality HVAC installation/maintenance and improve code compliance for peak load efficiency and performance
- SANDAG will help develop local energy plans consistent with regional and state energy efficiency goals.
- Will conduct demand response education for County facility managers and will continue best management practices networking with other local governments

In addition, the Partnership will embrace the Strategic Plan’s vision that by 2020, California’s workforce is better trained and engaged to provide the human capital necessary to achieve California’s economic energy efficiency and demand-side management potential. Specifically, the Partnership will address this strategic planning area as follows:

- By providing the technical assistance, education and planning documents to our member agencies in need, the Partnership will assist these cities in gaining the skill set to apply for their own LGP in the future to further reduce energy usage and carbon footprint of their city.
- Through its Energy-Saving Program for Local Governments, SANDAG plans to continue providing assistance, training and education to its member agencies for as long as needed.
- Through development of a Green Operations Manual and related trainings, SANDAG will educate its own staff on day to day sustainable measures and sustainable procurement practices.

The Partnership will embrace the Strategic Plan’s vision that Californians are engaged as partners in the state’s energy efficiency, demand-side management and clean energy efforts for 2009 and beyond with the dual goals of informing them of the importance of energy efficiency, and opportunities to take action. Specifically, the Partnership will address this strategic planning area as follows:

- The Partnership will, through all its activities, actively promote the branding of California’s energy efficiency and other DSM consumer products and services (e.g. Flex Your Power or other branding developed).
- The Partnership will aggressively and effectively use all potential social marketing opportunities to build awareness and improve local government attitudes and perceptions about energy efficiency and climate change.
- When applicable, the Partnership will utilize existing energy efficiency education programs run by SDG&E or third party rather than duplicate efforts.

The Partnership will embrace the Strategic Plan’s vision to provide all eligible consumers the opportunity to participate in the LIEE programs and to offer those who wish to participate in cost-effective energy efficiency measures in their residences by 2020. Specifically, the Partnership will address this strategic planning area as follows:

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- The Partnership will make sure that local governments are aware of LIEE programs available to their constituents.

Element C- Core Program Coordination:

Master PIP sub elements partnership addresses

C-1	Outreach and Education	No
C-2	Third Party Program Coordination	No
C-3	Technical Assistance	No

Not directly applicable. SANDAG will serve as a supporting role for its member cities in all of the sub elements through the energy management plans. See Emerging Cities PIP for more information.

c) Non-Incentive services

This is a non-resource government partnership program. All of the services delivered are non-incentive.

d) Target audience

SANDAG is the regional planning agency and its Board is made up of mayors, council members and supervisors from all of the 18 cities and county in San Diego. SANDAG’s target audience will be its member agencies, committees and working groups, including the Board, Regional Planning Committee, Energy Working Group and the Technical Working Group.

e) Implementation

The program will work with eight municipalities over the course of the 3-year program, audit their most energy intensive facilities, and write a comprehensive energy management plan. These plans will be the keys to implementing a broad array of energy efficiency projects. Through the audits, trainings and management plan recommendations, each municipality will be able to work with SDG&E to implement energy saving recommendations. This could be through rebates, incentives, on-bill financing or other mechanisms. SANDAG also will walk the talk by performing an internal sustainability assessment and developing a Green Operations Manual, so that staff and member agencies can learn about energy and CO2 reducing measures undertaken by their COG.

5) Program Element Rationale and Expected Outcome:

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

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b) Market Transformation Information

Table 4

	Market Transformation Planning Estimates		
Program/Element	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

c) Program Design to Overcome Barriers:

d) Quantitative Program Objectives:

Table 5

Program A: Government Facilities	<i>Program Target by 2009</i>	<i>Program Target by 2010</i>	<i>Program Target by 2011</i>
Program B: Strategic plan Support			
TBD			

6) Other Program Element Attributes

a) Best Practices:

The partnership will incorporate best practices where applicable.

b) Innovation:

The Partnership is committed to integrating its approaches with the Strategic Planning Process of the CPUC and the utilities. The Partnership will fully align its efforts with the strategic. The Partnership will not only align itself with the relevant portion of the Local Government areas, but to the extent appropriate, within the other strategic planning areas. For example, the Partnership will evaluate how it can impact the overall strategic planning objectives in the commercial area through its outreach efforts to its business communities.

c) Interagency Coordination:

The SANDAG Partnership will take advantage of its capacity as the regional planning organization to provide outreach, planning and technical assistance to its member agencies on energy and climate change

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d) Integrated/coordinated Demand Side Management:

The Partnership will embrace the Strategic Plan’s vision that all demand-side management programs are coordinated and, as appropriate, integrated to increase the penetration of energy efficiency and avoid lost opportunities. Specifically, the Partnership will address this strategic planning area as follows:

- The Partnership will closely integrate all DSM areas, including energy efficiency, conservation, and demand response and self-generation technologies.
- DSM will be addressed in each comprehensive energy plan the Partnership produces.
- The energy audits will include demand response, energy efficiency, conservation, renewable energy and distributed generation opportunities.

e) Integration across resource types:

The Partnership will utilize a comprehensive and integrated approach to delivering energy saving services to each local government. The integrated approach is comprehensive in its approach by implementing multiple measures (e.g., lighting, HVAC, energy controllers, etc.) and multiple program elements (e.g., training, outreach, coordination and information sharing

f) Pilots:

SANDAG is proposing a Pilot Joint Procurement Initiative. The objective is for municipalities to achieve cost-efficiencies that enable a much higher penetration of energy efficiency, demand reduction and self-generation programs. Staff will perform an assessment of how joint procurement could work in this region and will collaborate with SDG&E and participating municipalities to determine an appropriate pilot to undertake.

g) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Partnership Program Advancement of Strategic Plan Goals and Objectives

Table 6

<p>1-1: Develop, adopt and implement model building energy codes (and/or other green codes) more stringent than Title 24’s requirements, on both a mandatory and voluntary basis; adopt one or two additional tiers of increasing stringency.</p>	<p>For the SANDAG EWG, CCSE developed a green building code (more stringent than Title 24) and model ordinance. SANDAG will use these as part of the partnership’s energy roadmaps for local governments to adopt. The code provides both mandatory and voluntary measures. The Partnership’s focus on new construction opportunities will not only</p>
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	enhance the ability of the participating jurisdiction to enforce Title 24, but also educate the development community that Title 24 is the absolute minimum of energy savings required to obey the law. There are myriad sustainability measures that can be done to achieve greater efficiency including LEED.
1-2: Establish expedited permitting and entitlement approval processes, fee structures and other incentives for green buildings and other above-code developments.	SANDAG's partnership can identify existing expedited permitting programs and fee structures in use and offer them as policy recommendations.
1-4: Create assessment districts or other mechanisms so property owners can fund EE through city bonds and pay off on property taxes; develop other EE financing tools.	The SANDAG partnership will identify policies that create assessment districts like AB811 and promote implementation of these funding mechanisms. The Partnership will work with SDG&E to educate municipalities on new on-bill financing opportunities as a way to pay for energy efficiency improvements.
1-5: Develop broad education program and peer-to-peer support to local gov'ts to adopt and implement model reach codes	The partnership will work toward improved code compliance and enforcement. The partnership will work toward improved coordination of energy Codes & Standards with other programs, policies and jurisdictions.
1-6: Link emission reductions from "reach" codes and programs to ARB's AB 32 program	The Partnership will address energy efficiency in the broader context of climate change/ greenhouse gas issues as mandated by AB 32.
2-2: Dramatically improve compliance with and enforcement of Title 24 building code, and of HVAC permitting and inspection requirements (including focus on peak load reductions in inland areas).	The partnership will promote quality HVAC installation/maintenance and improve code compliance for peak load efficiency and performance. The partnership, through energy assessments of municipal facilities, will deploy system diagnostics to maintain quality performance of HVAC systems. The partnership will use and promote whole-building performance to get better space conditioning.
2-3: Local inspectors and contractors hired by local governments shall meet the requirements of the energy component of their professional licensing (as such energy	The partnership will work toward improved coordination of energy Codes & Standards with other programs, policies and jurisdictions.

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components are adopted).	
3-1: Adopt specific goals for efficiency of local government buildings, including:	The SANDAG partnership will significantly raise the awareness of the impacts and benefits of actions taken to reduce energy use and demand. The partnership will utilize the SANDAG Regional Energy Strategy Update and Regional Climate Action Plan (both to be completed in 2009) to develop efficiency, demand response and climate goals.
3-2: Require commissioning for new buildings, and re-commissioning and retro-commissioning of existing buildings.	The partnership will take advantage of well-established best practices in the area of local government programs; In addition, it will share its best practices as they develop with other local government programs throughout the State.
3-4: Explore creation of line item in LG budgets or other options that allow EE cost savings to be returned to the department and/or projects that provided the savings to fund additional efficiency.	The partnership will assist local governments in identifying energy efficiency savings stemming from particular departments or facilities.
4-1: LGs commit to clean energy/climate change leadership.	The SANDAG partnership will increase the institutional knowledge about clean energy and climate change at local governments. The partnership will help build local government leadership on energy and climate change.
4-2: Use local governments' general plan energy and other elements to promote energy efficiency, sustainability and climate change.	The Partnership will utilize the SANDAG Regional Energy Strategy Update and Regional Climate Action Plan to develop local energy plans consistent with regional and state energy-saving goals. SANDAG is developing these regional plans through a partnership with the California Energy Commission that expires quarter one 2010. The SANDAG LGP will "hit the ground running" on energy management plans, because we will build off our experiences with several pilot cities. As a pilot, the California Energy Commission partially funded assessments and management plans being done for the Cities of Poway, Imperial Beach and Solana Beach.
4-4: Develop local projects that integrate EE/DSM/water/wastewater end use	The Partnership will closely integrate all DSM areas, including energy efficiency, conservation, and demand response and

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	<p>self-generation technologies. DSM will be addressed in each comprehensive energy plan the Partnership produces. The Energy audits will include demand response, energy efficiency, conservation, renewable energy and distributed generation opportunities. Energy audits will be performed at water/wastewater pumping stations to identify energy-saving measures.</p>
<p>4-5: Develop EE-related “carrots” and “sticks” using local zoning and development authority</p>	<p>The partnership provides guidance to local governments on integrating EE into land use planning.</p>

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ICLEI – Local Governments for Sustainability, U.S.A., Inc. (ICLEI), the Institute for Local Government (ILG) and the Local Government Commission (LGC)

4) Program Element Description and Implementation Plan

a) List of program elements

Program elements are listed and explained in the next section.

b) Overview

SDG&E is offering assistance to help local governments reduce their carbon footprint through increased energy efficiency. This offering will primarily be delivered through the non-profit organizations, ICLEI – Local Governments for Sustainability, U.S.A., Inc. (ICLEI), the Institute for Local Government (ILG) and the Local Government Commission (LGC). This collaborative effort is structured to leverage the unique resources, assets, relationships, communications channels, programs, training, models and tools brought by each non-profit organization to support the CEESP. This is a statewide local government strategic element support effort among the four investor-owned utilities.

ICLEI will help local government (LG) participants in SDG&E’s service territory understand the linkages between energy efficiency and greenhouse gas (GHG) reduction/AB32 compliance. ICLEI will deliver in-person and online trainings to facilitate LG understanding of requirements under AB32, learn about principles and methodologies for conducting GHG inventories and setting GHG reduction targets, as well as developing and implementing climate action plans (CAPs). ICLEI will also provide access to templates and tools that detail the components of GHG inventories and CAPs and provide training on mitigation strategies for reducing GHG emissions in both local government operations and community-scale activities and facilities.

The LGC will conduct conferences, workshops and webinars, building upon ICLEI’s deliverables linking energy actions with GHG reduction to provide information about energy efficiency, demand response and renewable energy (EE/DR/RE), AB32 implementation, CEESP and other timely and important energy and climate policies, rules, regulations and legislation. These venues will increase opportunities for LGs to network and share information and experiences about best practices and lessons learned.

To encourage LGs to implement the best practices recommended by ICLEI and the LGC, the ILG will conduct a statewide local government recognition program for LGs that achieve their energy and climate goals. Within SDG&E’s service area, Silver, Gold and Platinum awards levels will be linked to the incentive and achievement levels established.

Element A- Government Facilities:

Master PIP sub elements partnership addresses

A-1	Retro-fit of County and Municipal Buildings	No
A-2	Retro-commissioning	No

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A-3	Integrating Demand Response	No
A-4	Technical Assistance	Yes
A-5	On-Bill Financing or CEC Loans	Yes

This partnership will support element A in the following ways:

By providing another channel for disseminating information about the key characteristics of successful Government Facilities energy programs, including information about high potential EE/DR/RE technologies, measures and approaches.

By providing information about on-bill financing, CEC’s California Energy Efficiency Financing Program (CEEFP) low interest loans, strategies for establishing self-replenishing revolving funds for energy projects, and other types of relevant information about financing municipal facilities retrofits.

By quantifying the GHG reductions that will be achieved through their Government Facilities energy retrofit plans so that this information can be effectively communicated to department heads, elected officials, lenders and community leaders whose support is needed to approve these plans.

Element B- Strategic Plan Support:

Master PIP sub elements partnership addresses

B-1	Code Compliance	No
B-2	Reach Code Support	No
B-3	Guiding Document Support	No
B-4	Financing for the Community	No
B-5	Peer to Peer Support	Yes

The 3 non-profit organizations will combine their respective membership bases and infrastructure to bring broad peer networks for sharing information, models and tools. They will also coordinate their respective resource libraries and databases and compile comprehensive resources related to best practices, tools and techniques that will be accessible by all local governments statewide.

ICLEI will focus on providing local governments’ tools and resources needed to develop their GHG inventories and climate action plans. ICLEI will offer trainings for LGPs that explain the methodology for computing the GHG impacts of their Government Facilities energy projects. ICLEI will also provide information about its GHG Inventory and Climate Action Planning Tools, and how these could be used to more effectively communicate the energy and GHG benefits of their Government Facilities energy portfolio to decision-makers that need to approve the capital expenditures. In addition, ICLEI will train participants on how to develop Climate Action Plans (CAPs) that include GHG reduction strategies that reflect best environmental responsibility policies, plans, programs and practices.

The LGC will supplement the GHG-specific information provided by ICLEI with additional information about California’s energy and climate policies and programs, and conduct conferences, webinars and other types of education and outreach venues for peer networking and

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sharing of best practices among LGs that are implementing similar types of Government Facilities projects. Information about financing strategies and options will be included. The ILG will then recognize the achievements of LG participants as they progress along the achievement scale. ILG will leverage its extensive network with California local governments as the non-profit research affiliate of the League of California Cities and the California State Association of Counties to reach all city and county officials with its California Climate Action Network (CCAN) program. Through CCAN, ILG will create and manage an awards and recognition program for local governments that achieve specified levels of energy efficiency and GHG reductions.

Element C- Core Program Coordination:

Master PIP sub elements partnership addresses

C-1	Outreach and Education	Yes
C-2	Third Party Program Coordination	No
C-3	Technical Assistance	Yes

The partnership supports core program coordination by providing another channel for disseminating information about community energy programs and opportunities, and for coordinating those outreach and education activities. Through the Core Program Coordination element, LGPs coordinate with SDG&E to support EE programs across the SDG&E portfolio with respect to outreach, education, third party programs, and technical assistance. LGPs will also have the opportunity to help bring EE to moderate income customers slightly above the LIEE guideline or to customers who are unable to produce the necessary LIEE documentation. The program element will support Element C by helping LGs integrate climate action/GHG reduction messages into the LGP/LGs’ community education and outreach efforts.

c) Non-Incentive services

This is a non-resource government partnership program. All of the services delivered are non-incentive.

d) Target audience

California cities and counties, LG staff and management, including facilities managers, budget and finance staff, department heads, elected officials, lenders, and community leaders whose support is needed to approve LG facilities retrofits and the LG Controller, Treasurer, financial advisors and others who assist the City in developing its financial plans.

State agencies & policymakers that are depending on local governments to help achieve California’s aggressive energy and climate action goals.

A wide variety of stakeholders that are needed to support local government efforts to “lead by example” in energy efficiency, demand response, renewable energy, climate action.

e) Implementation

The focus is to provide education, outreach and general strategic planning assistance to participants ultimately driving local governments to greater utilization of utility energy

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efficiency programs as an integral component toward meeting their GHG implementation goals. Services include but are not limited to:

- Providing information through webinars, training, and peer support network groups about GHG inventories, the recently adopted Local Government Operations Protocol (LGOP), GHG reduction targets, climate action plans and potential GHG mitigation and adaptation strategies [ICLEI]
- Providing local governments access to tools and templates to compute their GHG emissions and that of their communities, and evaluate the GHG reduction impacts of various proposed policies, plans, codes & ordinances [ICLEI]
- Conducting conferences, workshops, webinars, peer support network groups, and other types of venues for knowledge sharing, peer support, training and education about best policies, practices, etc. [LGC]
- Develop and manage an awards and recognition program that recognizes local governments that achieve targeted levels of energy efficiency, with special recognition of local governments that adopt reach policies, goals and codes. [ILG]

5) Program Element Rationale and Expected Outcome:

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Program/Element			

Refer to the overarching PIP section.

b) Market Transformation Information

Table 4

Program/Element	Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Etc.			

Refer to the overarching PIP section.

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c) Program Design to Overcome Barriers:

Lack of resources - both funds and knowledgeable staff with sufficient time - remain the two most significant barriers to achieving government energy efficiency and GHG reduction. This program brings in 3 non-profits that have information, tools and peer networks that can help LGs collaborate on how to overcome these barriers.

LGs are committed to help California achieve its aggressive energy and climate goals. Presently, however, many California's LGs are not clear about the immediate direction they are to take in addressing the multitude of policy priorities options – what they are, how they fit together, which needs to be done first, what is voluntary vs. mandatory, etc.

To overcome the staffing and knowledge gap that prevents many LGs from moving forward easily, the partnership will provide targeted information and training that helps clarify the maze of new and emerging policies, rules, regulation and legislation and LGs' role in implementing these so that LGs can take decisive action, thereby supporting the goals of the CEESP.

Primary Barriers	Strategies to Overcome Barriers
<p>Many local governments do not have sufficient staff resources to stay abreast of all the current issues (e.g., new policies, rules & regulations; AB32 & Title 24 compliance; most current and “best” policies, practices, programs, etc. for EE/DR/RE, climate action/GHG reductions, water efficiency, etc.).</p> <p>Many local governments also do not have staff that are knowledgeable in energy, climate & other sustainability issues and options.</p> <p>Many local governments are confused about the different types of carbon policies, programs, goals (especially mandatory vs. voluntary), and protocols.</p>	<p>Establish Baseline Understanding. The 3 non-profit organizations will collaborate in compiling a comprehensive repository of information for local governments about best-in-class energy, climate & other sustainability policies, programs, codes, ordinances, standards, practices, etc. This database will build upon the existing resources of each of organizations and integrate new information from many other sources, including local government partners and other programs & stakeholders. These resources will help shortcut the amount of time needed by LGs to get their arms quickly around these types of issues and events, and also to understand what is deemed the body of “best practices”, so that they can understand what needs to be done.</p> <p>Provide Regular Updates. California leads the nation in energy, climate and other environmental sustainability goals and initiatives. Each is progressing along its own track and few are fully integrated or coordinated with other initiatives. As a result, it is very difficult for any one person or organization to stay abreast of all of these issues. The need to understand this information is burdensome to</p>

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Primary Barriers	Strategies to Overcome Barriers
	<p>LGs who have barely enough staff and funds to cover their current mission-critical responsibilities. The partnership will deliver a comprehensive portfolio of education and training through conferences, workshops, webinars, etc. that help LGs stay current on evolving policies, rules, regulation & legislation so that they can free up staff time to address other essential priorities.</p> <p>Provide Access to Continuous Peer Support. As California's LGs struggle to keep up with all of these activities, they find it very helpful to network, learn, grow and share data, information and experiences with other LGs that are facing the same challenges. The partnership will facilitate access to a wide variety of peer-to-peer networks so that LGs can participate in the topics that are of greatest interest, need and priority to them and identify other LGs that can share in the development and implementation of policies, programs, strategies, etc.</p>

d) Quantitative Program Objectives:

Program	Program Target by 2009	Program Target by 2010	Program Target by 2011
Workshop/Conferences Statewide Conference Regional LG Networking Meeting Energy/GHG Topics Regional Workshops	N/A N/A N/A	1 3 3	1 3 3
Recognition Program Launch Recognition Events	N/A	X Min. 1/yr	Min. 1/yr
Tools CAP Guidebook Energy Programs database Best Practices database GHG reduction decision support tool	N/A N/A N/A N/A	X X X N/A	Ongoing Ongoing Ongoing X
Direct LG Training Small group topical meetings/Webinars (e.g., GHG emissions inventories-LGOP, target setting, CAP development and implementation, Staffing, Financing, Recognition program, EE,	N/A Ongoing	6 Ongoing	6 Ongoing

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Program	Program Target by 2009	Program Target by 2010	Program Target by 2011
CEESP) Coordination with regional entities (COGs, non-profit LG orgs, related agencies)			
Outreach Email communications, Newsletters, Web sites, presentations, leveraging opportunities, etc	Ongoing	Ongoing	Ongoing

6) Other Program Element Attributes:

a) Best Practices:

Type of Best Practice	Best Practice	ELPP Application(s)
Planning	Build feedback loops into <u>program design and logic</u> . Maintain the flexibility to rebalance portfolio initiatives, as needed, to achieve the portfolio's goals and objectives.	The portfolio of activities to be developed and managed by the 3 nonprofit organizations will be reviewed a minimum of quarterly throughout the program period.
	Clearly define portfolio implementation responsibilities and clarify roles to minimize confusion.	
Staffing	Leverage relationships from complementary organizations such as utilities, trade allies, and industry specialists.	The partnership is structured to leverage all resources, assets and relationships of the three non-profit partners, as well as SDG&E, local governments, and other organizations that also have information about local government best policies, practices, tools, techniques, etc. for reducing energy and GHGs.
Reporting & Tracking	Clearly articulate the data requirements for measuring portfolio and program success.	Monthly coordination meetings coupled with quarterly portfolio reviews and adjustments.
	Design tracking systems to support the requirements of all major users: program administrators, managers, contractors and evaluators.	

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b) Innovation:

These 3 nonprofit organizations all work now with LGs. Through the partnership they will combine and leverage their joint resources, assets, relationships, communications channels to increase the robustness of the information, tools and services that they can bring to California's local governments. It makes sense that they should bring their respective members into a common forum for sharing information, tools and techniques with all California local governments. This close collaboration is expected to improve both effectiveness and cost-effectiveness of their education and outreach activities.

c) Interagency Coordination:

The full scope of this program is the broader umbrella of "sustainability" initiatives, and thus includes a wide variety of environmental sustainability strategies and initiatives by other state and local agencies. Coordination will be required with all of these agencies to assure that California local governments understand their roles in implementing these goals. The types of agencies with which coordination will be needed include but are not limited to: California Air Resources Board (CARB); California Climate Action Registry (CCAR); California Department of Conservation's "Emerald Cities" and "Innovative Recycling" Programs; California Integrated Waste Management Board (CIWMB); California Strategic Growth Council; California Department of Housing & Community Development (HCD); California Energy Commission (CEC); California Department of Water Resources (DWR); Governor's Office of Planning & Research (OPR); State Water Resources Control Board (SWRCB); U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy (EERE); U.S. Environmental Protection Agency's ENERGY STAR & WaterSense Programs.

d) Integrated/coordinated Demand Side Management:

This Partnership is designed primarily to provide strategic planning support for local governments and will include EE, DR and RE.

e) Integration across resource types:

Consistent with the CEESP, this program will include energy (EE, DR & RE) in combination with GHG reduction. Although not a direct goal of the partnership, the process of computing GHG inventories as well as developing and implementing CAPs will also benefit other sustainability initiatives such as water efficiency, waste management, transportation management, smart planning and growth.

f) Pilots:

No pilots are planned through this program, although it is possible that explorations of reach policies, goals, codes, ordinances, etc. could be developed into pilot programs.

g) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program

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design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Partnership Program Advancement of Strategic Plan Goals and Objectives

Table 6

CEESP Strategies for Local Government Sector	Program Activities that Support CEESP Strategies
1-1: Develop, adopt and implement model building energy codes (and/or other green codes) more stringent than Title 24's requirements, on both a mandatory and voluntary basis; adopt one or two additional tiers of increasing stringency.	Provide venues for delivering training by SDG&E.
1-2: Establish expedited permitting and entitlement approval processes, fee structures and other incentives for green buildings and other above-code developments.	Compile information from multiple organizations and disseminate through workshops, webinars & on-line resources Encourage including in Energy and Climate Action Plans Provide training, tools and templates for estimating and reducing emissions impacts from various policies, codes, standards & ordinances
1-3: Develop, adopt and implement model point-of-sale and other point-of transactions relying on building ratings.	
1-4: Create assessment districts or other mechanisms so property owners can fund EE through city bonds and pay off on property taxes; develop other EE financing tools.	
1-5: Develop broad education program and peer-to-peer support to local govt's to adopt and implement model reach codes	
1-6: Link emission reductions from "reach" codes and programs to ARB's AB 32 program	
2-2: Dramatically improve compliance with and enforcement of Title 24 building code, and of HVAC permitting and inspection requirements (including focus on peak load reductions in inland areas).	Provide venues for delivering training by SDG&E
2-3: Local inspectors and contractors hired by local governments shall meet the requirements of the energy component of their professional licensing (as such energy components are adopted).	Recommend that local governments adopt & implement
3-1: Adopt specific goals for efficiency of local government buildings:	Help establish goals for municipal EE and compute the GHG benefits of EE projects & plans Help elected officials draft resolutions & adopt EE goals Link energy efficiency progress to Recognition program Encourage local governments to include these goals in their Climate Action Plans

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CEESP Strategies for Local Government Sector	Program Activities that Support CEESP Strategies
3-2: Require commissioning for new buildings, and re-commissioning and retro-commissioning of existing buildings.	Encourage local governments to adopt
3-4: Explore creation of line item in LG budgets or other options that allow EE cost savings to be returned to the department and/or projects that provided the savings to fund additional efficiency.	Provide information about successful “revolving fund” strategies deployed by other LGs & how they overcame implementation barriers
3-5: Develop innovation Incubator that competitively selects initiatives for inclusion in LG pilot projects.	Provide information about participation opportunities
4-1: LGs commit to clean energy/climate change leadership.	Compile information from multiple organizations and disseminate through workshops, webinars & on-line resources
4-2: Use local governments’ general plan energy and other elements to promote energy efficiency, sustainability and climate change.	Encourage including in Climate Action Plans
4-4: Develop local projects that integrate EE/DSM/water/wastewater end use	Provide coordination with water & wastewater agencies, CEC, others
4-5: Develop EE-related “carrots” and “sticks” using local zoning and development authority	Develop curriculum & educational materials Conduct training

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7. Partnership Program Advancement of Strategic Plan Goals and Objectives

The table below shows which partner is addressing each strategic planning goal. Please refer to individual local government sub PIP's for more detail of each individual partner's advancement of the strategic goal.

	City of San Diego	City of Chula Vista	County of San Diego	City of San Juan Capistrano	Port of San Diego	SANDAG
Strategic Planning						
1-1: Develop, adopt and implement model building energy codes (and/or other green codes) more stringent than Title 24's requirements, on both a mandatory and voluntary basis; adopt one or two additional tiers of increasing stringency.	Yes	Yes	Yes	Yes	No	Yes
1-2: Establish expedited permitting and entitlement approval processes, fee structures and other incentives for green buildings and other above-code developments.	Yes	Yes	Yes	Yes	No	Yes
1-3: Develop, adopt and implement model point-of-sale and other point-of transactions relying on building ratings.	No	No	No	No	No	No
1-4: Create assessment districts or other mechanisms so property owners can fund EE through city bonds and pay off on property taxes; develop other EE financing tools.	Yes	Yes	Yes	No	No	Yes
1-5: Develop broad education program and peer-to-peer support to local govt's to adopt and implement model reach codes	Yes	Yes	Yes	Yes	No	Yes
1-6: Link emission reductions from "reach" codes and programs to ARB's AB 32 program	Yes	Yes	No	Yes	No	Yes
1-7: Develop energy efficiency-related "carrots and sticks" using local zoning and development authority.	Yes	Yes	Yes	Yes	Yes	No
2-1: Statewide assessment of local government code enforcement and recommendation for change.	Yes	Yes	No	No	No	No
2-2: Dramatically improve compliance with and enforcement of Title 24 building code, and of HVAC permitting and inspection requirements (including focus on peak load reductions in inland areas).	Yes	Yes	Yes	No	No	Yes

**2009-2011 Energy Efficiency Programs
Local Government Partnerships
Program Implementation Plan**

	City of San Diego	City of Chula Vista	County of San Diego	City of San Juan Capistrano	Port of San Diego	SANDAG
Strategic Planning						
2-3: Local inspectors and contractors hired by local governments shall meet the requirements of the energy component of their professional licensing (as such energy components are adopted).	No	No	No	No	No	Yes
3-1: Adopt specific goals for efficiency of local government buildings.	Yes	Yes	Yes	Yes	Yes	Yes
3-2: Require commissioning for new buildings, and re-commissioning and retro-commissioning of existing buildings.	Yes	Yes	Yes	No	Yes	Yes
3-3: Improve access to favorable financing terms that create positive cash flow from energy efficiency/DSM savings	Yes	Yes	Yes	Yes	Yes	Yes
3-4: Explore creation of line item in LG budgets or other options that allow EE cost savings to be returned to the department and/or projects that provided the savings to fund additional efficiency.	No	No	No	No	No	No
3-5: Develop innovation Incubator that competitively selects initiatives for inclusion in LG pilot projects.	No	No	No	No	No	No
4-1: LGs commit to clean energy/climate change leadership.	Yes	Yes	Yes	Yes	Yes	Yes
4-2: Use local governments' general plan energy and other elements to promote energy efficiency, sustainability and climate change.	Yes	Yes	Yes	Yes	Yes	Yes
4-3: Statewide liaison to assist local governments in energy efficiency, sustainability, and climate change.	Yes	Yes	Yes	No	No	Yes
4-4: Develop local projects that integrate EE/DSM/water/wastewater end use	Yes	Yes	Yes	Yes	Yes	Yes
4-5: Develop EE-related "carrots" and "sticks" using local zoning and development authority	Yes	Yes	Yes	No	Yes	Yes

2009-2011 Energy Efficiency Programs Comprehensive Home Performance Program Implementation Plan

1) Program Name and Program ID number

Program Name: Comprehensive Home Performance Program (CHPP)
Program ID number: TBD

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
Local Programs						
	Local01 - Local Whole House Performance	1,515,192	973,014	2,310,000	0	4,798,206
	TOTAL:	\$ 1,515,192	\$ 973,014	\$ 2,310,000	\$ -	\$ 4,798,206

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
Local Programs				
	Local01 - Local Whole House Performance			
	TOTAL:	0	0	0

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

a) Describe Program

SDG&E's Comprehensive Home Performance Program (CHPP) is a new addition to SDG&E's 2009-11 Residential Energy Efficiency Portfolio. The Comprehensive Home Performance Program (CHPP) delivers comprehensive energy efficiency improvement packages tailored for both the home resale and home modeling markets. The CHPP

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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solicits, screens, and trains qualified residential repair and renovation contractors to assemble capable contracting teams and perform whole-house diagnostics, propose a comprehensive energy efficiency improvement package, and complete the improvements. The program also includes marketing activities to help educate customers on CHPP program services as well as providing additional customer leads to trained and experienced contractors. Incentives and available financing options will be provided to help offset the initial homeowners cost for the energy efficiency Home Performance improvements. Contractors will receive an incentive for formal home diagnostics, post retrofit quality assurance testing and reporting data on all jobs. Furthermore, the program will provide consistent standards and professional identity in association with the national Home Performance with ENERGY STAR® program.

The CHPP services for participating contractors includes; orientation, training in both technical and business/marketing/sales topics, field mentoring and support, specialty teambuilding, website materials, email newsletters, an online peer group Q&A forum, and a broad range of alliance-building, education and marketing services.

b) List measures:

- Thermal load reduction via air sealing, insulation, ventilation, windows, etc.
- Right-sizing and proper installation of HVAC systems including duct sealing.
- Baseload reduction opportunities such as lighting, plug loads, water heating, pool-pump, and energy efficient appliances and equipment.
- Where applicable - solar water heating, photovoltaic (PV) installations, self generation, demand response applications.
- Low flow shower heads, faucet aerators, and shower start devices.

c) List non-incentive customer services:

The Program offers technical training, field mentoring, and business/marketing seminars. The technical training and field mentoring are used to improve basic contractor skills and introduce the basic concept of energy efficient home repair and renovation best practices. The business/marketing seminar will be offered to help home improvement contractors identify the most effective way of selling home efficiency performance to customers.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Table 3

**2009-2011 Energy Efficiency Programs
Comprehensive Home Performance
Program Implementation Plan**

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			

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As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

SDG&E is collaborating with the other IOU's to complete this design.

d) Quantitative Program Targets:

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Homes retrofitted	50*	150	250
Home performance training sessions	included in 2011 target	included in 2011 target	7
Orientation seminars	included in 2011 target	included in 2011 target	6
Business/marketing seminars	included in 2011 target	included in 2011 target	6

Note: Values provided represent yearly targets

** Actual target will depend upon start date*

e) Advancing Strategic Plan goals and objectives:

This program responds to the need for much larger energy savings in existing homes than is possible with conventional checklist audits or single measure improvement (prescriptive) programs. It addresses the key "whole house" strategy of the CLTEESP by influencing homeowner "decision triggers" to improving home energy efficiency and understand advantages to expand participation to reach savings goals. This program is also a vehicle to increase penetration of cost effective, high efficiency appliances and shell upgrades.

6) Program Implementation

a. Statewide IOU Coordination

The Comprehensive Home Performance Program is a local utility program that will be administered by SDG&E. However, SDG&E will work closely with the other IOU's on an established basis to develop, where possible statewide consistency in terms of program design, implementation, incentive levels, marketing and outreach activities. This on-going communication between the IOU's will provide an opportunity to share program experiences, and lessons learned, and facilitate the development of a more statewide comprehensive program in future years.

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b. Program delivery and coordination:

CBPCA will implement the program in collaboration with SDG&E's program manager. Implementation will include coordination with Energy Star, California Energy Commission (CEC)/PIER for needed R&D, and a variety of other allies. The CHPP will be implemented in alignment with all applicable research, best practices, and policy movements.

Contractor solicitation and screening

The Program uses contractor lists provided by allied organizations such as the Institute for Heating and Air Conditioning Industries (IHACI), Air Conditioning Contractors of America (ACCA), National Association of the Remodeling Industry (NARI), Build It Green (BIG), Insulation Contractors of America (ICA), and solar groups. It will have a presence at key local conferences such as the Journal of Light Construction's (JLC) Remodelers Exhibition to advertise the Program directly to interested contractors. The CHPP includes personal screening interviews to assure active interest and dissemination of the scope and intent of the training.

Technical training and field mentoring

Training will include the following:

- Training to improve basic contractor skills and introduce the basic concepts of energy-efficient home repair and renovation practices
- Training in building science, home assessment, and proper remediation including an intensive day of in-home hands-on diagnostic practice
- Advanced training with an additional day in an actual home, and access to Building Performance Institute (BPI) technical certification
- Small-group field mentoring in technical and proposal development activities

Contractor business support

Many contractors are not successful with comprehensive home performance due to business rather than technical challenges. Business barriers range from staff training and motivation to team-building, work process scheduling and management, quality control, marketing, job estimation, and sales. At least two annual seminars in these business matters will be offered as well as a broad range of supporting materials such as data collection and homeowner report templates and regular monitoring of contractor activity. Contractors will be offered business planning guidance as needed, including help in grouping complementary trades and interests into fully job-capable teams.

Incentives

CHPP will offer financial incentives to both contractors and customers. Contractors will receive a financial incentive for home diagnostics, post retrofit quality assurance testing, and reporting of data. Customers will receive financial incentive for installing Home Performance measures performed by an eligible CHPP contractor.

Data collection, quality assurance and reporting

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Energy simulation models will be combined with utility bill data for calibration during a project. To assure contractor reporting the payment of customer incentives will be tied to the contractor's delivery of full job data, utility bills and homeowner report. As required by ENERGY STAR, the Program's implementers will randomly select 5 percent of each contractor's reported retrofits for onsite job verification and review 100 percent of the job data inputs from contractors. Verifications will include homeowner interviews, intensive visual checklist inspections, and selective retesting of key items. A subset of these energy savings estimates may later be validated against the first year's after-retrofit utility bills plus climate data and homeowner interviews as needed to identify changes in other factors affecting energy use.

Marketing/ implementation methods employed

Contractors will be instructed in cost-effective marketing methods. Media attention will be gained through free home retrofit contests. SCE may assist in media outreach and provide customer billing data to help identify and approach priority candidates. Realtors will be engaged as lead generators to identify clients of interest. Other groups will be engaged as appropriate. The program will coordinate, as applicable, with SDG&E's marketing activities and may include website links, bill inserts, press releases, referrals, and information in marketing collateral.

Activities to be performed by subcontractors

A subcontractor will be involved in specifying, staffing, scheduling, and general oversight of CBPCA activities. A selected group of trainers and contractors will assist the subcontracted lead trainer with technical training and mentoring activities. Job verifications are assigned to qualified experts such as HERS raters. Other subcontractors will provide marketing assistance, promotional materials, energy simulation software support, etc.

AB811

The Program will look for opportunities, through AB811, to work with local governments in installing energy efficiency improvements to residential properties and making those improvements more affordable.

i. Emerging Technologies program

This comprehensive retrofit program is an ideal early-adopter vehicle for new technologies such as the hot/dry air conditioner, energy use monitors for users, new approaches to hydronic heating, ecological insulation options, cool roof technologies, and even advanced solar hot water and PV installations.

ii. Codes and Standards program:

The 2008 Title 24 code revision is the most relevant to this program's work. New requirements as well as adequate enforcement and compliance with older 2005 provisions (notably HVAC quality installation) will be required, monitored, and reported in this Program. CHPP will be coordinated with the Codes & Standards program to ensure that

2009-2011 Energy Efficiency Programs Comprehensive Home Performance Program Implementation Plan

the impacts of any code changes are incorporated into program design and implementation.

iii. WE&T efforts

The CLTEESP is supported through coordination with the WE&T Strategic Plan, whereby CHPP's unique approach towards development of qualified home retrofit technicians will lead to significant progress in the reduction of residential energy consumption over the next decade.

iv. Program-specific marketing and outreach efforts

Marketing campaign will be structured to continuously solicit contractors and market to customers throughout the life of the Program. Marketing efforts will be conducted using the following approach:

- i. **Marketing to Contractors:** The Program will market to contractors, through local chapters of various trade associations, plus targeted commercial contact databases.
- ii. **Marketing to the Customers:** The Program marketing strategy involves empowering the trained contractors to be the primary public educator and marketer. Those consumer marketing and education efforts help contractors develop and manage the customer leads that provide the necessary path to specific home performance jobs. The Program will participate in select public events such as home shows and work with local media to publicize the Program's benefits. CHPP will also market via direct mailing, brochures, and bill inserts to create interests of the Program.

Budget for these activities are included in the overall budget for this program.

v. Non-energy activities of program

A truly comprehensive home retrofit includes some elements that are chosen by the homeowner primarily for reasons other than energy bill savings such as indoor air quality, noise abatement or structural deterioration problems. When building envelope enhancements are made, the homeowner typically receives along with these improvements health benefits, home integrity assurance from moisture problems, HVAC equipment longevity, and potential home value increase. At the program level, implementers review projects to identify and encourage all project components that contribute to energy savings as well as other benefits. At an individual project level, contractors seek to identify homeowner's desires, solve a full range of Home Performance deficiencies, and clearly explain how these deficiencies contribute to energy waste.

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vi. Non-IOU Programs

The Program will be open to suggestion from Non-IOU Programs in order to achieve the Program's objectives.

vii. CEC work on PIER

Public Interest Energy Research (PIER) funded the development of Home Performance contracting protocols during 2003-2006. That program provided field testing and contractor feedback for the PIER project. In addition, PIER may fund further research into related topics including homeowner motivation, valuation of societal benefits, and comparative demonstration and analysis of methods for energy savings forecasting and verifications.

viii. CEC work on codes and standards

The 2008 Title 24 code revision is the most relevant to this program's work. CHPP will be coordinated with the Codes & Standards program to ensure that the impacts of any code changes are incorporated into program design and implementation.

ix. Non-utility market initiatives

CHPP coordinates and fulfills Home Performance with Energy Star requirements, and its contractors are allowed to display the Energy Star logo in their home performance marketing. CBPCA is actively allied with Build it Green and the U.S. Green Building Council, and provides energy related training and support to "green remodelers" in those organizations. The Lung Association's "Health House" program is another ally in promotion of whole house solutions. CBPCA is also involved in the Berkeley Solar Plan's efforts to incorporate substantial energy efficiency improvements and options such as whole house retrofits into solar installations.

c. Best Practices

The Program offers a 9 day intensive Home Performance training for contractors who are interested in adding a Home Performance aspect to their contracting business. Contractors attend classroom training as well as learning hands on how to use many of the advance tools to asses a home's condition. Mentoring sessions are also conducted in order for the contractors to absorb more knowledge from professionals that have experience in the subject matter.

Contractors will be offered to attend a business/marketing seminar to successfully add the Home Performance aspect to their business and provide a business planning guide as needed.

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Lessons Learned: Through experience both in SDG&E's CHPP and similar Home Performance with Energy Star efforts elsewhere, a variety of lessons have been drawn that permit some key design refinements.

- a) Incentives are necessary to overcome the broad lack of market awareness of comprehensive energy retrofit opportunities and benefits.
- b) Contractors need incentives to create early demand and help the business model transition to Home Performance contracting.
- c) Incentives need to be tied to job pre/post-testing data to overcome contractor resistance to "paperwork" and the complexity of comprehensive testing.

d. Innovation

This Program is innovative because it takes a "whole-house" approach instead of "prescriptive" approach. It offers the highest possible electric & gas savings per home due to its comprehensiveness. The improvement package is tailored to the needs of each existing home and its owner which minimizes lost opportunities.

e. Integrated/coordinated Demand Side Management

This Program will create additional energy savings and integration through inter-program referral and data sharing, and bundling of DSM solutions across energy efficiency, demand response, California Solar Initiative, Smart Meter, and other IDSM efforts.

f. Integration across resource types (energy, water, air quality, etc)

This Program will be able to integrate across resource types from energy to air quality. Customer who completes a Home Performance retrofit will not only improve their indoor air quality but also the outdoor air quality by reducing the carbon footprint of their home from making it more energy efficient.

g. EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program

SDG&E is working with the other IOU's to complete this diagram.

8) Program Logic Model

**2009-2011 Energy Efficiency Programs
Comprehensive Home Performance
Program Implementation Plan**

SDG&E is working with the other IOU's to complete this diagram.

2009-2011 Energy Efficiency Programs Local Kitchen Learning Center Program Implementation Plan

1. Projected Program Budget:

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	4 - SDGE Local Kitchen Program					included in the SW WE&T
	TOTAL:	\$ -	\$ -	\$ -	\$ -	\$ -

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

2. Projected Program Impacts:

This is a non-resource program and, therefore, has no projected program impacts.

3. Brief Program Description:

Currently, the San Diego Gas & Electric (SDG&E) service territory is the only IOU in the state that does not offer a food service center for their customers. Restaurants consist of establishments engaged in the sale and service of consumable goods. This sector represents 6950 electric accounts (5.9% usage) and 4741 gas accounts (10.5% usage).

SDG&E feels that a facility in the service territory would establish a positive reputation with manufacturers and professional restaurant industry groups. This would provide an opportunity to offer education and training services on various aspects of food service facility design, maintenance and operations (seminars, design consultations and EE site audits); participating in industry outreach and events. Additionally, this center will play a unique role in supporting SDG&E energy efficiency and demand reduction programs by generating project leads for those programs.

The Statewide Energy Efficiency Education and Training Program offers commercial food service centers in the following Investor Owned Utilities (IOUs): Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and Southern California Gas Company (SoCalGas) to their customers. SDG&E is the only IOU that currently does not offer this program. The Food Service component of the Education and Training Program is one of the key components of the IOU energy efficiency portfolios in 2009-2011. This program contributes to an integrated, strategically coordinated and comprehensive approach to effectively imparting energy efficiency knowledge among the hospitality and food service market sectors.

The goals of the Program are to:

- Work directly with the Food Service and Hospitality segments to disseminate expert, hands-on insight regarding energy efficiency technology and practices with a view to reducing energy usage, operational and maintenance costs, and improve productivity.

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- Provide education and training to a variety of midstream and upstream market professionals (e.g. architects, designers, engineers, distributors, managers, educators, contractors, and others) for their use in planning, administering, implementing and evaluating their energy efficiency practices.

4. Program Rationale and Expected Outcome

Currently, SDG&E does not have a food service facility in San Diego. Based on the interest from the food service stakeholders, we feel that a commercial kitchen in San Diego would be critical for this market segment. Currently, SDG&E refers customers to the Downey ERC to tour the foodservice kitchen where they can test the equipment to determine their own needs. Customers often decline the invitation due to the distance San Diego is home to many corporate food service companies. Our ability to work directly with them would provide additional partnership opportunities and leverage of foodservice rebates & incentives available.

The Learning Center would serve a commercial food service kitchen for seminars and workshops. Additionally, it will provide the needed meeting space for the current SDERC needs. Due to rising demand from customers, SDG&E workshops have been fully subscribed. This site would provide overflow for popular workshops.

The existing SDG&E education and training content is distributed using a variety of presentation and delivery channels. The primary channels are listed below:

Seminars – classroom-style presentation of energy efficiency educational content
Joint statewide seminars - comprehensive energy efficiency educational seminars and conferences jointly hosted, promoted and sponsored by IOUs at rotating sites throughout the state

Expos/tradeshows – participation in industry shows attended by utility customers

Training – technical curricula suited to future industry professionals and trade organizations on topics pertinent to the specific industry and typical customer technology applications.

Key Issues of Concern / Importance:

Moving energy efficient equipment into the restaurant industry and offering designer and directional lighting is essential to meeting the goals in 2009-2011. Unfortunately, even if the customer is choosing energy efficient equipment, they are not completing the rebate forms. This is an obstacle in chain accounts and independently owned establishments. Dealers and manufacturer sales reps do not like completing the rebate applications, leaving it up to the customer. Even though the statewide Food Service Program is highly effective with this segment, capturing the results of the program is an issue. Segment Advisors will clearly add to

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the solution, however stronger alliance and long term strategies with manufacturers and dealers is necessary to penetrate this segment.

Furthermore, many restaurants in the San Diego County region are part of the California Restaurant Association. The CRA offers industry insiders insight into state wide restaurant trends and movements. There may be an EE opportunity with the CRA that could filter through to its individual members.

Source: <http://www.calrest.org/go/CRA/>

Based on market conditions and preliminary research, a study by E Source believes that restaurant operators are highly motivated to embrace carefully prepared product and service. It has been confirmed that market-worthy offerings for restaurant customers unless they have a detailed understanding of how the restaurant business uses energy, the technologies they now have, the upgrades that would help them most, their decision-making structures, and the views and preferences of restaurant decision-makers. The Kitchen Learning Center would provide the hands-on tools and provide the training to create solutions that address concerns specific to this sector,

Generating timely, independent, and detailed information on the restaurant sector, this study will give you the market intelligence and analysis you need to gain--and use--that advantage.

Source: http://www.esource.com/public/products/mcs_rest.asp

Customer View:

How much the customer is willing to invest in EE will inevitably depend in part on whether the target location is leased/rented or is owned. In either case, efficiency is the best option; however, communication between all parties and stakeholders may not exist in terms of energy management.

Restaurants typically tend to also look at cash incentives and rebates for new equipment while installing EE HVAC systems as a first step may not be the best option. In fact, lighting retrofits are one of the most EE approaches to energy savings taken by some national chains.

Refer to Property Management / Office Space above for a more detailed similar examination. Note that this seems to be the prevalent theme throughout Wholesale/ Retail.

Trends:

At the Learning Center we will be able to incorporate demand response opportunities for this segment. There has been interest to install Energy Management Systems (EMS) in the chain, retail and food industry on a national basis.

A program/incentive mechanism needs to be developed to capture the savings. Standard Performance Contract is not accepting this measure. EMS were traditionally utilized by large central plant applications and multi-campus facilities such as Hospitals, college campuses, high

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tech manufacturing/pharmaceuticals, and biomedical. Historically these have been high cost/robust systems not all customers are entitled to.

More recently, the trend is moving towards smaller, smarter EMS systems aimed at retail with packaged unit facilities. Manufacturers are catering to this market to be able to control multi-location facilities through out the county with a single location computer connected through the internet. This also gives additional opportunity to implement DRP measures on a local and statewide level. In the past communication was relied upon from store to store with the opportunity for unwanted behavioral changes.

Demand Bidding, CPP, Peak Day, Summer Saver, would all benefit from the EMS system and would leverage the utility to implement in an industry typically not responsive to these programs. The Wholesale/Retail/Office segment is being affected by the Green movement which has increased awareness of energy consumption. This should enable us to reach more customers or previously unwilling customers. The Building Operators and Managers Association (BOMA) states LEED is the push in 2009 and beyond due to government policies not leasing to non-LEED Certified buildings. The current trend includes more energy efficient projects in original new and retrofit designs.

*Some of the systems may affect load while other systems offer savings. Some of the systems control more than lighting and HVAC- equipment such as Ice Machines - targeted for off peak performance. Additional research is needed to evaluate the diverse systems and their primary use.

Emerging technologies, the green movement and market transformation will deliver energy efficiency and demand response opportunities.

Diminishing natural resources/ increasing cost of natural resources will move people toward EE/DR. The need for environmental stewardship will have an increasing importance. This however, must be balanced with increasing customer revenues as it competes for capital, revenue generating, and improvements.

Restaurants-Primary equipment

1. Lighting-Compact fluorescent, ceramic metal halide, dimmable lighting controls, LED accent lighting, lighting controls
2. HVAC- package air-conditioning, variable speed drives for fans, evaporative coolers to replace mechanical compression HVAC for kitchen, cooking hood controls, energy management system, hot water heater controls,
3. Cooking equipment – Efficient cooking equipment supported by Express Efficiency, natural gas booster heaters for dishwashers, pre-rinse spray valves
4. Refrigeration- Evaporator fan controllers for walk-in coolers, matched cooler and freezer evaporator and condensing units with discus compressors and/or floating head control, Strip curtains, refrigerated door gaskets

Lack of information and education has been identified as the main reasons for ineffective consumer behavior towards energy conservation and implementation of energy efficient practices and technologies. Past experience has shown that lasting energy savings will only come through public education that generates a change in consumer behavior which will subsequently create a market transformation.

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The Education and Training Program shall aim for a marked expansion in customer interactions, touch points and the number of attendees who will be actively engaged in acquiring and adopting energy efficient materials, equipment and business practices. The Program will pay special attention to workforce education and training issues and initiatives, both internally and externally, to support an integrated, strategically coordinated and comprehensive approach to implementing energy efficiency. Through showcasing and hands-on demonstration of energy efficiency equipment, materials, displays and exhibits, and by offering seminars specifically designed to focus on emerging technologies, the Program will work to break down negative customer perceptions in regards to cost, performance uncertainty, and asymmetric product information. Education & Training will offer an informative experience that will encourage customers to implement energy-efficient measures, resulting in energy savings and conservation, as well as participation in other public goods funded programs.

California is the sixth largest economy in the world, and its industry consumes over one-third of the state's non-generation energy (21% of the electricity and 48% of the natural gas). Affirming the state's long term goals with regard to permanent energy savings, the CPUC Decision 07-10-032 of October 2007 adopted and outlined four "Big, Bold Energy Efficiency Strategies" (BBEES) with the following targets.

- All new residential construction in California will be zero-net energy by 2020;
- All new commercial construction will be zero-net energy by 2030;
- The heating, ventilation and air conditioning industry will be reshaped to insure optimal equipment performance (Title 24 compliance, climate-appropriate technologies, and system solutions)
- Industrial market sector activities will be coordinated with AB 32

In addition, the CPUC Decision identified Education and Training as a key catalyst for sustaining momentum in energy management, emission reduction, and introduction of new energy efficient technologies. In order to capitalize on all energy savings opportunities, customers must be effectively sold on the economic and environmental benefits of energy efficiency, which is where education and training plays a vital role. Lack of information and education has been identified as the main reasons for ineffective consumer behavior towards energy conservation and implementation of energy efficient technologies.

The primary purpose of the Education & Training Program continues to be the reduction of barriers to customer participation in the energy efficiency marketplace by providing accurate and unbiased energy efficiency information to SDG&E customers. The program, offered through joint collaboration of the IOU utilities, will provide the education, technical assistance and outreach that are necessary to bring about substantial energy savings for the entire state. The following is a list of planned objectives for the Program:

- Develop interactive educational training modules which augment the design and installation of energy savings measures and equipment

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- Provide information and technical tools that support energy efficiency options in a manner consistent with the Commission’s adopted Energy Action Plan
- Establish a clearinghouse of services to support customer education
- Educate and train customers to perform the jobs needed to reach California’s clean energy goals.

The Learning Center will focus primarily on energy efficiency it will use an integrated approach to energy education by emphasizing the relationship between energy efficiency, demand response, renewable and distributed generation. SDERC education efforts will follow the guidelines set forth in the California Energy Action Plan which highlights California’s preferred energy loading order and the importance of bundling these resources. When discussing opportunities for energy efficiency we will also provide information on available programs such as rebates provided through SDG&E Demand Response Program and the California Solar Initiative. For example, the Learning Center will work with the California Solar Initiative to provide the following energy efficiency services to businesses and homeowners considering installing solar: CEC-mandated Information and disclosure, benchmarking and auditing services, retro-commissioning services where required, negotiation of Commitment Agreements, active referrals to EE portfolio and third-party programs, and periodic post-installation follow-up We will show also how reducing energy usage and installing energy efficiency measures can reduce the cost of other measures like solar.

5. Program Implementation

In continuing to disseminate information on energy-efficient technologies and best practices to customers and the market place, SDG&E Education and Training Program will focus on food service and hospitality commercial customers. Additionally, the Program will:

- Align education and training with the Big Bold Energy Efficiency Strategies.
- Work directly with the LIEE team to develop education program offerings to the restaurant and food service employees.
- Coordinate education and training to current third party and partnership programs.
- Synergize statewide IOU joint energy center programs to ensure education and training is consistent and cost effective.

A renewed focus will now be placed on developing “train the trainer” programs to facilitate reaching out to a broader audience. New program tools, materials, and market strategies shall be introduced to address specific emerging gaps and opportunities for education and training:

Lectures focusing on adult learning principles – Informative interchanges between customers, academia and industry experts will concentrate on topics including technology,

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energy management and construction design issues to increase customer retention, awareness and comprehension.

Case Studies – Will include customer success stories as well as emerging technology studies and test results pertaining to new technologies.

Statewide education and training– SDG&E will promote collaborative education programs, statewide, focusing on web-based delivery of education seminars and conferences which are made available to technology-enabled education centers and other participating sites.

Demonstration of Equipment –

New Programs and Strategies – Commercial

SDG&E analysis of the commercial market sector has identified distinct commercial market segments to be targeted by the resource program portfolio.

To reach the commercial market segment, the Education and Training Program will primarily focus on energy efficiency offerings to:

- commercial facility contractors
- engineers
- architects
- business owners
- equipment operators
- large commercial property leasing managers
- building facility and energy management superintendents
- restaurant merchants
- institutional facilities, both public and private

Collaboration has proven to be a way to educate the market on comprehensive gas, electric and water energy efficiency approaches and solutions. These efforts will be expanded in the following areas:

- Training of customers and vendors regarding auditing and monitoring consumption
- Educating equipment distributors about available energy efficiency equipment, testing and process improvements
- Participation in expanding vendor fairs, conferences and expositions
- Providing training on emerging initiatives in green regulations and developing workforce opportunities

Use its array of delivery channels such as seminars, certification courses and business center energy analysis tools training to support achievement of the long-term goal of net-zero energy by 2030 for new commercial construction, and also to facilitate reshaping the HVAC industry to increase equipment efficiency, quality of equipment and system

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installations in residential homes by continuing its association with the building operations management organizations.

Use its array of delivery channels such as seminars, certification courses and on-site workshop training to support achievement of the long-term energy management, and also to facilitate emissions management, waste disposals and reductions to increase equipment efficiency, quality of equipment and system installations in industrial facilities by continuing its association with Department of Energy and California Energy Commission.

The SDERC overall implementation strategy contains three critical elements: community education, community outreach, and community resources. Local government, associations and community group partners will be utilized to support outreach to residential and commercial customers including those considered “hard to reach”. CCSE in coordination with SDG&E will use available databases to insure maximum outreach to all market sectors. This will allow SDERC staff to effectively conduct the targeted marketing campaigns necessary to draw the various audiences addressed in workshops and events. CCSE and SDG&E will continue to provide resources to the community to help increase their practice of energy efficiency measures. Both CCSE and SDG&E websites’ will continue to be comprehensive regional sources of energy information for all market segments and will be used to promote classes and events, handle on-line course registration for workshops, RSVPs for community events, provide access to vendor databases, and provide post-workshop support and follow up. The SDERC will also continue to provide an energy efficiency resource library and Diagnostic Tool Lending Program. The SDERC will also add a new element by providing information, audits, benchmarking and targeted support services to those considering the installation of solar, so that lost opportunities for energy efficiency are minimized. Another addition to the SDERC will be to work with the County to develop a sustainability section in San Diego County Libraries to provide books on energy efficiency and information on 3rd Party and Utility Programs. A detailed description of overall SDERC implementation strategy is listed below.

Community Education:

- Provide onsite workshops in one of the SDERC multipurpose classrooms, as well as offsite locations. Topics will include energy efficiency, green building practices, building commissioning, sustainable design and other appropriate topics.
- Provide customized trainings for public agencies, business, and other groups upon request.
- Customized information for hard-to-reach sectors including seniors and non-English speakers.
- Regional energy information forums.

Community Outreach:

- Participation in local “energy fairs,” trade shows, and other public forums appropriate for promoting energy efficiency.

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- Collaboration with professional/trade associations, and local, regional, state and federal agencies that promote energy efficiency.
- San Diego Excellence in Energy Awards (SANDEE).
- Partnership with the Regional and local Chamber(s) of Commerce to help meet the needs of the business community.

Community Resources:

- Online resources including the vendor database, energy-related links, and an online newsletter.
- Provide the Learning Centers for technical workshops, educational programs and industry meetings.
- Comprehensive energy resource library and Tool Lending program.
- A Technology Center featuring energy efficiency related equipment, displays, and exhibits.
- Technical Assistance Sessions that “coach” customers through project design, equipment purchase and installation, commissioning, and ongoing operation and maintenance.
- Sustainability section in San Diego County Libraries that provides books on energy efficiency and information on 3rd Party and Utility Programs
- Follow up on educational trainings to provide additional resources and information including SDG&E incentive and rebate offers.

To increase the awareness of the public with regards to the services provided by CCSE and SDG&E, the SDERC will employ the following marketing strategies:

Non-Residential Targeted Marketing:

- E-mail blasts to CCSE and SDGE&E contacts
- Event mailers to CCSE and SDG&E contacts
- Ads in industry publications
- Annual San Diego Excellence in Energy (SANDEE) Awards
- Attendance at trade shows and industry events
- Partner with California Solar Initiative to market an integrated package of information on bundling energy efficiency and solar, to solar customers, contractors and other stakeholders
- Public Relations outreach to local news media

Residential Targeted Marketing:

- E-mail blasts to CCSE and SDGE&E contacts
- Event mailers to CCSE and SDG&E contacts
- Attendance at community events
- Ads in publications read by residential customers

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- Partner with California Solar Initiative to market an integrated package of information on bundling energy efficiency and solar, to solar customers, contractors and other stakeholders
- Public Relations outreach to local news media

While it is difficult to quantify the results of educational efforts, the potential success of the program is enormous. Through ongoing contact with previous SDERC users and attendees of SDG&E seminars there is clear indication that the services provided through the various components have led to documented reductions in energy use and increased cost savings. It is known in fact, that the programs and resources have been the catalyst for numerous local Public Agencies, military commands, commercial enterprises, contractors and engineering firms to implement energy efficient technologies and measures that have ultimately resulted in significant kWh and kW savings.

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1) Program Name and Program ID number

Program Name: Micro Grid Comprehensive Energy Efficiency Delivery Pilot
 Program ID number: TBD

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
Local Programs						
	Local02 - Local Island Program	2,242,929	1,181,624	1,685,010	0	5,109,562
	TOTAL:	\$ 2,242,929	\$ 1,181,624	\$ 1,685,010	\$ -	\$ 5,109,562

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
Local Programs				
	Local02 - Local Island Program			
	TOTAL:	0	0	0

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

a) Describe program

San Diego Gas & Electric's (SDG&E) Transmission and Distribution Group is preparing to begin a demonstration project that will investigate improving the reliability of delivering electricity by providing local generation to select substations. Through this project SDG&E will select a representative substation and site a dedicated power plant to meet the energy needs of customers fed from the substation. Additionally, this project

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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will investigate new communication and control strategies required to serve this unique “Micro Grid”.

In accordance with the Long Term Energy Efficiency Strategic Plan (LTEESP), the Energy Action Plan (EAP), California Solar Initiative (CSI), the Advanced Metering Initiative and the San Diego Clean Generation Program (AB811 financing for solar), SDG&E is proposing the following pilot:

In support of the EAP’s loading order, SDG&E will have a concentrated effort on implementing all cost effective energy efficiency measures within the locus of customers served by the selected substation, cutting across the Low Income, Residential and Non-Residential sectors. In addition to energy efficiency (EE), there will be significant activity to increase penetration of our demand response (DR) programs, as well as supporting the placement of renewable sources of power and clean, efficient distributed generation.

This effort will allow SDG&E to form new, creative partnerships with key stakeholders like California Center for Sustainable Energy (CCSE) and local governments to achieve an integrated demand-side management community. This innovative pilot will provide a path for future programs to offer comprehensive energy solutions to customers. This pilot will integrate envelope, mechanical, plug load and lighting energy efficiency measures thereby moving to a whole house/building approach as called for in the LTEESP.

In addition to energy efficiency, this pilot is unique in the level of coordination and integration with other programs like DR, CSI and Smart Meters to achieve cross-cutting energy solutions for customers. Through this pilot, SDG&E will form an alliance with stakeholders like CCSE, 3rd Party Contractors, Demand Response Aggregators and Local Governments to implement a comprehensive solution that will include energy efficiency measures, clean generation, AMI enabling technologies and demand management load control. This pilot will be a ‘proving ground’ for complementary program offerings giving SDG&E and the CPUC help to better understand barriers and opportunities with different stakeholders as part of an integrated approach rather than discrete efforts with limited coordination.

Residential Focus

The 2009-2011 Micro Grid Pilot will recommend and deliver specific single-family and multi-family EE and DR home improvement packages that will drive participants to Zero Net Energy. Auditors will be instrumental in the whole-house EE and DR upgrade process. The program will directly assist residential customers through progressive stages of energy efficiency planning and implementation including:

1. Education and information gathering;
2. Comprehensive home audit, which will generate a checklist of action items and a comparative analysis of energy- and cost-savings as well as DR and self-generation opportunities;

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3. Whole-house focused installation of energy measures, backed by strong financial incentives

To begin, eligible customers will receive a free comprehensive audit that will include low-cost EE and DR solutions. The on-site audit will provide integrated solutions in energy efficiency, demand response, and self-generation, and will, in some cases, advise customers on other sustainability practices such as water conservation opportunities. The customer will receive a report that will contain multiple line-item recommendations, many of which will include leading-edge technologies such as LED lighting. The checklist of recommendations will also show potential energy- and cost-savings and whether or not a SDG&E rebate is available.

At a glance, customers will be able to understand the comparative short- and long-term advantages of implementing the various recommended measures. With the combination of EE, DR, and self-generation options, the report will also serve as a roadmap towards achieving Zero Net Energy. In addition to creating the comprehensive audit report, the auditor's role will be to provide selective information tailored to the customer's unique needs on such topics as SDG&E EE and DR programs, the California Solar Initiative, federal and state tax credits and incentives related to energy. The auditor will also be available to assist customers in planning measure installation and selecting the corresponding programs that best fit their needs.

The Residential Micro Grid measure and incentive structure will have three tiers and is designed to motivate participants to choose the higher tiered bundles. This three tiered incentive structure will also serve to better evaluate which incentive level and measure mix will encourage the customer to take action. All tiered participants will be expected to install at least one qualified DR technology to participate.

- At 10% Zero Net Energy² achieved, the customer will receive \$1,500 that will be applied towards additional qualified measures listed on the audit report.
- At 20% Zero Net Energy achieved, the bonus incentive increases to \$3,000.
- At 50% Zero Net Energy achieved, the incentive increases again to \$10,000.

In all cases, the bonus incentive may only be applied toward qualified audit measures and all customers must participate in a DR program. To qualify for the \$10,000 incentive, customers must demonstrate a commitment to install a photovoltaic solar system with a minimum of 2 kW power production and install an advanced lighting system.

Dependent on the customer's progress towards attaining Zero Net Energy, customers will receive an environmental "Advocate," "Leader," or "Champion" designation.

The table below provides a brief snapshot of the Micro Grid Pilot offering for residential customers.

² For this pilot, Zero Net Energy is defined as the average of the site's gas and electric energy savings compared to the previous year's usage.

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Residential Micro Grid Customer	Comprehensive Audit	Incentive	% Zero Net Energy Achieved (based on audit report)
Environmental "Champion"	X	Rebates + \$10,000	50%
Environmental "Leader"	X	Rebates + \$3,000	20%
Environmental "Advocate"	X	Rebates + \$1,500	10%

The Micro Grid Pilot will include marketing activities to help educate customers on program services. Incentives and available financing options will be provided to help offset the initial cost for the EE and DR improvements. The Pilot will encourage participation in complementary programs offered by the local municipality, CCSE, and SDG&E core and 3rd Party programs. The Micro Grid project will work with local municipalities to support AB811.

The Micro Grid Pilot will provide services for participating contractors including; orientation, training in both technical and business/marketing/sales topics, field mentoring and support, specialty teambuilding, website materials, on-going communication, and a broad range of alliance-building, education and marketing services.

The Micro Grid Pilot will coordinate activities with Low-Income Energy Efficiency (LIEE) to make sure all qualifying LIEE participants are specifically targeted by the program.

- b) List measures:
- Home envelope upgrades
 - Lighting
 - HVAC systems, including tune-ups, duct sealing and ventilation
 - Plug loads and energy-efficient appliances
 - Domestic hot water

- c) List non-incentive customer services:

The Micro Grid Pilot offers technical, business/marketing training and field mentoring services. The technical training and field mentoring are used to improve basic contractor skills and to introduce the basic concept of energy efficient home repair and renovation practices. Auditors and contractors will be required to complete training classes prior to program participation to ensure that the project goals and objectives are seamlessly achieved. The business/marketing seminar will be offered to help contractors on the most effective way of selling EE and DR comprehensiveness to customers.

Commercial/Industrial (C/I) Focus

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The 2009-2011 Micro Grid Pilot will offer commercial and industrial customers a bundle of products and services delivered using a Continuous Energy Improvement approach. The program will directly assist C/I customers through progressive stages of energy efficiency planning and implementation including:

1. Education and information gathering;
2. Comprehensive facility audit, which will generate a checklist of action items and a comparative analysis of energy- and cost-savings;
3. Whole-facility focused installation of energy measures, backed by strong financial incentives;
4. Public recognition of customer accomplishments to further encourage the integration of energy efficiency and other sustainable activities into the customer's business culture.

To begin, eligible customers will receive a free comprehensive audit. The on-site audit will provide integrated solutions in energy efficiency, demand response, and self-generation, and will, in some cases, advise customers on other sustainability practices such as water conservation opportunities and CO₂ reduction. The customer will receive a report that will contain multiple line-item recommendations, many of which will include leading-edge technologies such as LED lighting. The checklist of recommendations will also show potential energy- and cost-savings and whether or not a SDG&E rebate is available. At a glance, customers will be able to understand the comparative short- and long-term advantages of implementing the various recommended measures. With the combination of EE, DR, and self-generation options, the report will also serve as a roadmap towards achieving Zero Net Energy. In addition to creating the comprehensive audit report, the auditor's role will be to provide selective information tailored to the customer's unique needs on such topics as SDG&E EE and DR programs, the California Solar Initiative, federal and state tax credits and incentives related to energy, and greenhouse gas measurement/tracking. The auditor will also be available to assist customers in planning measure installation and selecting the corresponding programs that best fit their needs.

To encourage customers to start implementing audit recommendations right away, the Pilot will offer strong financial incentives to customers located within the Micro Grid. For each qualified measure installed, the customer will receive a rebate associated with the Statewide Deemed Program. In addition, customers can earn "bonus" incentives that increase in value as milestones towards Zero Net Energy are reached:

- At 10% Zero Net Energy achieved, the customer will receive \$1,500 that will be applied towards additional qualified measures listed on the audit report.
- At 20% Zero Net Energy achieved, the bonus incentive increases to \$3,000.
- At 50% Zero Net Energy achieved, the incentive increases again to \$10,000.

In all cases, the bonus incentive may only be applied toward qualified audit measures. Also, all customers must participate in a DR program, and to qualify for the \$10,000

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incentive, customers must demonstrate a commitment to install a photovoltaic solar system with a minimum of 2 kW power production and install advanced lighting systems. So designed, the graduated “bonus” incentives will reward customers who realize progressively deeper and comprehensive energy savings.

In recognition of the energy savings accomplished, the Micro Grid Pilot will offer C/I customers an engraved plaque which can be presented in a storefront or other prominent location to acknowledge the customer’s achievement. Dependent on the customer’s progress towards attaining Zero Net Energy, customers will receive an environmental “Advocate,” “Leader,” or “Champion” designation. Environmental “Champions” will be further recognized through SDG&E-developed Case Studies and reception at SDG&E’s annual Energy Showcase, which rewards customers for their participation and leadership in energy efficiency programs.

The table below provides a brief snapshot of the Micro Grid Pilot offering for C/I customers.

C/I Micro Grid Customer	Comprehensive Audit	Incentive	% Zero Net Energy Achieved (based on audit report)
Environmental “Champion”	X	Rebates + \$10,000	50%
Environmental “Leader”	X	Rebates + \$3,000	20%
Environmental “Advocate”	X	Rebates + \$1,500	10%

The full bundled offering includes a comprehensive audit focused on emerging technologies, energy planning services, graduated incentives tied to cumulative savings, participation in DR, encouragement to enroll in complementary programs such as On-Bill Financing and CSI, and customer recognition. Together, the bundle of products and services endeavors to make meaningful strides towards achieving the commercial-sector Zero Net Energy and efficient lighting goals of the Strategic Plan.

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b) List measures

C/I Micro Grid Pilot Measures

- Lighting
- HVAC
- Food service equipment
- Refrigeration
- Industrial processes
- Motors
- Plug loads
- High-efficiency water heating
- Greenhouse curtains and infrared films
- Insulation
- Steam traps

c) List non-incentive customer services

- Comprehensive audits
- Short- and long-term energy planning assistance
- Education and outreach with respect to SDG&E EE and DR programs as well as self-generation and non-energy programs
- Recognition through designation as an environmental “Advocate,” “Leader,” or “Champion” and case studies

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

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The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Internal Market Transformation Planning Estimates			
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers

Information or Search Costs

Information or search costs include the costs of identifying and/or learning about energy-efficient products, services and practices. It is difficult to provide individual service to the mass market segment because of the sheer volume of customers. Using auditors, this pilot will perform site specific assessments, identify opportunities, promote programs and coordinate installations of energy retrofits.

Hassle or Transaction Cost

Hassle or transaction cost represents the cost (time and material) involved in obtaining or contracting for an energy efficiency product or service. Auditors, being the heart of this

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program, will schedule and coordinate visits from appropriate, qualified trades thereby removing this burden from customers.

Misplace/Split Incentives

One significant barrier is not offering “comprehensive” incentives. For various competitive reasons contractors, including those in non-competing fields, avoid partnering together to offer comprehensive solutions. By using auditors to create leads for contractors and by offering premium incentives, the impetus to work together and create complete energy solutions is addressed.

Organization Practices or Customs

Organization practices or customs represent the potential barriers inherent in organizational behavior or systems of practice that discourages or inhibit cost-effective energy-efficiency decisions. As mentioned above, contractors work in silos and don't share leads with other trades. Through the use of auditors and premium incentives, this pilot will attempt to establish a new paradigm.

Performance Uncertainties

Performance uncertainties relate to the costs that consumers and market actors face when evaluating claims about the performance of energy efficient products, services and practices. Creating case studies and home tours, this pilot will help customers get comfortable with the cost and performance of energy efficient products, services and practices.

Access to Financing

On-bill financing will help commercial customers install energy retrofits and, if available, AB811 funding will be leveraged to help all customers with energy retrofits.

High First Cost

Traditional energy-efficiency measures come at a cost premium, but cutting-edge measures (e.g. solid state lighting, smart technologies) come with an even higher price tag. This pilot addresses these high costs with matching incentives to offset cost and risk of being an early adopter.

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Barrier	Auditor	Premium Incentives	Differentiated Product Offering	"Parade of Homes"	Case Studies	AB811/On-Bill Financing
Information/Search Cost	X		X			
Hassle Cost	X		X			
Split Incentives	X	X				
Organization Practices	X	X	X			
Performance Uncertainties				X	X	
Access to Financing						X
High First Cost		X	X			X

d) Quantitative Program Targets

Table 5a - Residential

Residential Target	Program Target by 2009	Program Target by 2010	Program Target by 2011
# Environmental "Champions"	0	8	12
# Environmental "Leaders"	8	80	120
# Environmental "Advocates"	0	232	348
Completed Home Performance Technical Training Classes	1	3	1
Completed Business/Marketing Seminars	1	3	1

Table 5b - Commercial

Commercial Target	Program Target by 2009	Program Target by 2010	Program Target by 2011
# Environmental "Champions"	1	2	2
# Environmental "Leaders"	10	20	20
# Environmental "Advocates"	35	50	65

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e) Advancing Strategic Plan goals and objectives

Residential Sector

- *Goal 1: Home buyers, owners and renovators will implement a whole-house approach to energy consumption that will guide their purchase and use of existing homes, home equipment (e.g. HVAC systems), household appliances, lighting, and “plug load” amenities.*

SDG&E has made inroads into implementation of comprehensive energy savings measures, but this pilot will employ new strategies to increase our penetration into comprehensive, whole-house approaches to home energy retrofits (Strategy 2-1).

By using auditors to actively identify opportunities, promote programs and coordinate installations of energy efficiency retrofits, this pilot effectively integrates and delivers comprehensive demand-side options including energy efficiency, demand response and renewable energy measures. Additionally this pilot will perform market research investigating different incentive strategies (e.g. increased incentives for comprehensiveness, time-based incentives) to determine customer “decision triggers” to increase participation in DSM programs (Strategy 2-2).

Through the development of case studies and home tour agreements with customers, this pilot will gather and disseminate information on advanced retrofits. This pilot will leverage in-home displays and smart meters to promote commercialization of home energy management tools (Strategy 2-3).

Finally, SDG&E will investigate the feasibility of using AB811. If these funds are available, this pilot will promote AB811 financing options for energy retrofit projects as applicable. If AB811 funding is not available, SDG&E will work with the local government partnerships to investigate the potential for innovative financing programs (Strategy 2-4).

- *Goal 2: Plug loads will be managed by developing consumer electronics and appliances that use less energy and provide tools to enable customers to understand and manage their energy demand.*

Through this pilot SDG&E will raise public awareness through an outreach campaign that will provide energy usage information associated with building envelope, lighting, mechanical, appliance, and plug load. Through this campaign, and the accompanying audits, smart meters and in-home displays, this pilot will promote the purchase of more efficient products and create behavioral changes in the way products are perceived, used, and managed. Included in this pilot’s primary focus is the deployment of smart power strips and informative visual displays (i.e. in-home displays) (Strategies 3-2 and 3-3).

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- *Goal 3: The residential lighting industry will undergo substantial transformation through the deployment of high-efficiency and high-performance lighting technologies, supported by state and national codes and standards.*

This pilot is also focused on the deployment of attractive rebates and incentives to bring significant penetration of the best available lighting technologies, with an emphasis on solid state lighting, to market (Strategy 4-2).

Commercial Sector

- *Goal 1: 50 percent of existing buildings will be equivalent to zero net energy buildings by 2030 through achievement of deep levels of energy efficiency and clean distributed generation.*

This pilot will help identify new/improved tools and strategies to provide customers with useful information and mechanisms to effectively change behavior to reduce energy consumption (Strategy 2-5).

By using auditors to actively identify opportunities, promote programs and coordinate installations of energy efficiency retrofits, this pilot will investigate alternative models for the delivery of integrated DSM services as well as strengthening building commissioning practices (Strategies 2-5, 2-7, 2-8).

This pilot will also explore premium incentive strategies to reward comprehensive energy management retrofits. Included in this pilot's primary focus is the deployment of smart power strips and in-home displays to bring attention to and help manage plug loads within the commercial sector (Strategy 2-5, 2-8).

- *Goal 2: The commercial lighting industry will undergo substantial transformation through the deployment of high-efficiency and high-performance lighting technologies, spurred by State and national codes and standards and leading-edge incentive strategies.*

As mentioned in the residential section above, this pilot will also focus on the deployment of attractive rebates and incentives to bring significant penetration of the best available commercial lighting technologies (emphasis on SSL) to market (Strategy 3-2).

Integrated Demand Side Management

- *Goal 1: Deliver integrated DSM options that include efficiency, demand response, energy management and self generation measures, through coordinated marketing and regulatory integration.*

This pilot focuses on streamlining and integrating the EE, DR, and DG programs across activities such as marketing, outreach, incentives and implementation. AMI

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deployment will be timed with this pilot so that the marketing campaign will be integrated and comprehensive (Strategy 1-1).

Through the effective employment of audits and technical assistance this pilot will identify and promote all DSM opportunities in both the residential and commercial sectors. This pilot will also leverage available financial vehicles to help remove potential barriers customers might have to implement energy retrofits (Strategy 1-2).

6) Program Implementation

a. Statewide IOU Coordination

The Micro Grid is a local, innovative pilot, which will provide valuable lessons learned, strategies and tools to other Statewide IOU's in the areas of energy-efficiency, demand response, emerging technology, and solar, all the while supporting the EAP's loading order and the Long Term Energy Efficiency Strategic Plan.

b. Program delivery and coordination:

i. Emerging Technologies (ET) program

The long-term energy efficiency vision of California can only be attained through the continuous development, verification, and acceptance of new technologies into the market. The Micro Grid Pilot, in collaboration with Emerging Technology will demonstrate new and emerging energy efficiency, demand response and customer behavior change technologies through field assessments, demonstrations, scaled field placements. The program is currently reviewing a diverse list of emerging technologies, including Program Controllable Thermostats (PCT'S), In-Home Displays, EMS Systems & Advanced Lighting. The program's foundation is directly linked to working with the CEC's Public Interest Energy Research (PIER) program, as well as the CPUC.

ii. Codes and Standards program

Energy efficiency measures follow a prescribed track for their introduction and acceptance into the marketplace. They follow this order of development: 1) R&D, 2) Emerging technologies, 3) Incubation, and 4) Mainstream. The Pilot will rely on the Codes and Standards program to maintain an updated and relevant list of measures that will support savings. As Codes and Standards impact measures, the pilot will act to align itself with appropriate offerings. Sub-programs, such as Calculated and Deemed, will include new offerings that will allow flexibility in adapting to changes in codes and standards, market trends, and technologies. Planned enhancements to Title 24 will be reflected in incentive levels and eligible measures and services. Towards that end, the Micro Grid Pilot will continue to work closely with the crosscutting Codes and Standards team.

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iii. WE&T Efforts

Leverage existing efforts through programs & organizations

Customer Education & Training:

- DOE Basic, Intermediate, and Specialist training – refrigeration systems, HVAC, motors, compressed air, and steam
- Commercial lighting efficiency seminars
- Integrated industry-focused workshops, e.g., restaurants, lodging, retail, hospitals, commercial buildings, hi-tech and bio-tech facilities
- Email blasts
- Other commercial process systems training workshops

Workforce Education & Training:

- Comprehensive pilot-specific training of the auditors
- Contractor training will encompass utilization of audit results and communicating the recommendations to the customer
- Title 24 training
- Commercial refrigeration best practices (for designers), in support of the Strategic Plan focus on refrigeration
- HVAC best practices for data centers, laboratories, and other specialized use facilities

Collaborative Organizations:

- American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE)
- Building Owners and Managers Association (BOMA)
- International Facility Management Association (IFMA)
- International Heating & Air Conditioning Industries (IHACI)
- California Center for Sustainable Energy (CCSE)
- Local Governments

iv. Program-specific marketing and outreach efforts

Research will be conducted to identify the customer profiles within the targeted substation. Residential customer data will be analyzed to determine such information as demographics, lifestyle segmentation, energy use patterns, and past program participation. Information about commercial customers will include industry segmentation, historical energy use/intensity, and past program participation.

Marketing collateral will be created to educate customers about energy-efficiency in general and program-specific opportunities in particular. Although not technically marketing collateral, the customized audit result presentation format gives us a unique opportunity to educate customers and inspire them to take integrated, holistic action. As the program progresses, case studies will be created to document participation and

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successes. In addition home tours will be conducted to highlight energy-saving technologies and installations.

A variety of marketing channels will be used to reach residential and commercial customers within the substation footprint. These channels will include direct mail, out-bound calling, SDG&E's website, and outreach at community events. An additional marketing channel, SDG&E's account executives, is available for the assigned commercial customers and will be utilized. Other channels, such as cell phone calling, text messages, and the creation of customer-specific micro-sites, could be considered, if determined appropriate and cost-effective.

v. Non-energy activities of program

Please refer to section 6f: Integration across resource types

vi. Non-IOU Programs

- California Center for Sustainable Energy's California Solar Initiative
- Working with Municipalities (AB811 - Financing for Energy Projects)
- San Diego County Water Authority (partnering on high-efficiency clothes washers and "smart" weather-based irrigation controller)

vii. CEC work on PIER

The CEC is committed to studying how micro grids perform at utility scale regarding reliability, communication and economics. They are interested in the impact of feeder-level energy storage, demand response, and distributed generation on system performance.

The CEC proposal has 4 goals to study:

1. Integrating utility- and customer-based energy resources, including carbon and non-carbon based energy sources and applications.
2. Enhancing the management of intermittent renewable resources, including the impact of resources from sustainable communities.
3. Identifying and evaluating the key technical and operational issues with designing, implementing, and managing an integrated energy portfolio of utility and non-utility interconnected resources.
4. Improving power reliability and quality via utility asset optimization.

viii. CEC work on codes and standards

Please refer to PIP section 6b viii, Codes and Standards.

ix. Non-utility market initiatives:

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The Micro Grid Pilot will coordinate with applicable market initiatives to leverage market momentum and areas of mutual advantage. The pilot will leverage the following efforts:

California Center for Sustainable Energy's California Solar Initiative offering

San Diego County Water Authority

- Partnering on high-efficiency clothes washer program and "smart" weather based irrigation controller

DOE

- Federal Tax Credits for Energy Efficient Home Improvements such as insulation, HVAC, windows and water heaters. Additionally, residential tax credits of up to 30% can be received on solar electric systems placed in service from January 1, 2006 through December 31, 2016.

c) Best Practices.

The Micro Grid Pilot incorporates a broad range of "Best Practice" measures, including:

I. Solicit stakeholder input into the portfolio and program plans either through a formal interview process or a collaborative planning process involving key stakeholders.

- SDG&E will form alliances with stakeholders such as California Center Sustainable Energy, 3rd Party Contractors, Demand Response Aggregators and Local Governments to implement a comprehensive solution that includes energy efficiency, demand response, clean generation, AMI enabling technologies, and demand load control.

II. A Continuous Energy Improvement approach.

- All elements of the program are aimed at reliability, sustainability, and energy efficiency improvement through a whole house/whole building approach. The audit provided will act as a roadmap to continuous improvement.

III. Avoid lost opportunities by utilizing a cross cutting, bundled approach of measures.

- Stakeholder synergy is the key to leveraging the most advanced offering of measures and options to the customer. Using the three tiered bundles, the whole house/building approach captures the most comprehensive measures and maximizes energy efficiency results.

IV. Provide Technical Assistance

- Due to the unique nature of the pilot, a high-touch, personalized approach will be provided to the customer. Comprehensive auditing will be done, recommendations

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identified, program materials offered, incentives explained, and timely, comprehensive work completed. Ideally, the auditors will act as general contractors as well, who will oversee and facilitate the projects.

V. Link the audits for each, targeted market segment to policy objectives and resource constraints.

- Audit information is the key indicator of what measures will be offered and therefore what can be, within reason, incentivized for customer participation.

VI. Integrate marketing, customer, audit, and impact data.

- Based on the results of comprehensive, customized audits, customers will be presented with recommendations for improving energy-efficiency and options for securing financial assistance.

VII. Make the audit recommendations, including energy saving potential, part of the Program's tracking database.

- All results-based information will be entered into a program-tracking database by address and work completed will be notated. This valuable information may be used to remind the customer of potential upgrades at a later time when the upgrades may be more feasible.

VIII. Use rebates primarily to support market transformation strategies.

- In order to create market shift, program incentives as well as tiered incentives for Advocate-, Leader-, Champion-level customer participation will be provided to motivate customer behavior.

IX. Collect and analyze data to understand how markets have changed due to your programs, determine the maturity of the market, and inform your exit strategy and next steps.

- Data will be collected throughout the program lifecycle, case studies will be created based on results, lessons learned and next step recommendations will be proposed.

X. Allocate evaluation efforts strategically across the portfolio based on savings achievement. Target additional resources toward the very largest categories, programs, and projects, and toward those with the most uncertainty in savings estimates. Support program review and assessment at the most comprehensive level possible.

- Continued evaluation of program offerings will be conducted and incentives reviewed throughout the program lifecycle. Data collected through audits will help drive and leverage savings estimates through the measures.

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XI. *Periodically “mine” tracking data to understand, and learn from, historical portfolio and program experiences.*

- Data will be reviewed throughout the program lifecycle to make necessary adjustments in any number of areas, including offerings, incentives and marketing efforts.

XII. *Engage senior management to recognize the portfolio’s value in meeting the organization’s financial, customer service and regulatory goals.*

- Senior Management has endorsed this project and realizes the long-term benefits of trying to create a vision of what future communities may look like. Management recognizes the program could be a blueprint for future offerings by utilities all over the country.

d) Innovation

High touch, proactive approach for mass market customers

This pilot is innovative in its unique approach to mass market customers. Customized service for these customers is challenging because of their large numbers. By focusing on this subset of customers who are able to participate in this pilot we will be able to interact more closely with this important class of customer. Through these interactions we will get a better understanding of customers’ decision triggers and retrofit obstacles.

In 2012 SDG&E will be able to apply the “lessons learned” from this pilot, as well as provide the tools developed, to all mass markets customers. These tools and strategies will allow the utility to achieve greater penetration into whole house/building energy solutions.

Marketing approach tied to AMI deployment

Another innovative approach used by this pilot is marketing our energy efficiency programs with AMI deployment. AMI deployment for this substation is currently scheduled for mid 2010 and will include a joint marketing and outreach campaign just prior to deployment. Customers that participate in this pilot will be offered an In-Home Display (IHD) and a Programmable Communicating Thermostat (PCT).

The unique timing of the smart meter rollout with the distribution of IHD will provide customers with more energy information and, through program participation, greater insight into their consumption than ever before.

Differentiated product offering with strong DR and CSI promotion

Using a three tiered package approach (Advocate, Leader and Champion) is an innovative way to drive customers toward larger and more comprehensive energy retrofits. Requiring DR as a prerequisite for program participation, and participation in

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CCSE's solar program to qualify for the Champion tier is an innovative way to drive customers towards a complete integrated energy solution.

e) Integrated/coordinated Demand Side Management

As mentioned above, demand response participation is a requirement for customers to receive the premium incentives associated with this pilot. Additionally, participation in CCSE's solar program is a prerequisite to achieve the top tier, Champion-level incentives offered in this pilot. Regardless of whether customers qualify and receive the premium incentives, all customers that request an audit will be provided with a complete list of energy retrofit recommendations. These recommendations will include on-site generation, demand response as well as energy efficiency measures. Finally, all customers that receive audits will be contacted with the results and given suggestions on how they can participate in all DSM programs. They will also be given the opportunity to schedule an appointment with a 3rd party or a contractor for follow-up (e.g. Comverge for Summer Saver, KEMA for an A/C tune-up).

f) Integration across resource types (energy, water, air quality, etc)

A comprehensive audit marketing plan will be aligned and coordinated with programs in order to maximize effectiveness, integrate offerings, and, where appropriate, refer customers to relevant DSM programs. SDG&E will also look to partner with interested public and governmental bodies to proactively promote energy efficiency and environmentally responsible actions, in partnership with programs such as the local government partnerships, the water authority, CCSE and green communities.

Comprehensive audits will serve as the foundation for integrated offerings by providing a truly comprehensive energy assessment to customers, providing them information and recommendations around energy-efficiency, distributed-generation, demand response, solar initiative, Advanced Metering, and AB811 financing, if available. SDG&E will provide customers with a complete picture of their energy usage, options for reducing costs and using energy more efficiently, and direct them to programs that meet their needs and situation.

Marketing collateral and messages for energy efficiency will be integrated with other SDG&E programs. Through audits, marketing and outreach efforts, home tours, case studies and leveraging Partnerships, SDG&E will further adjust approaches to the targeted customers.

g) Pilots

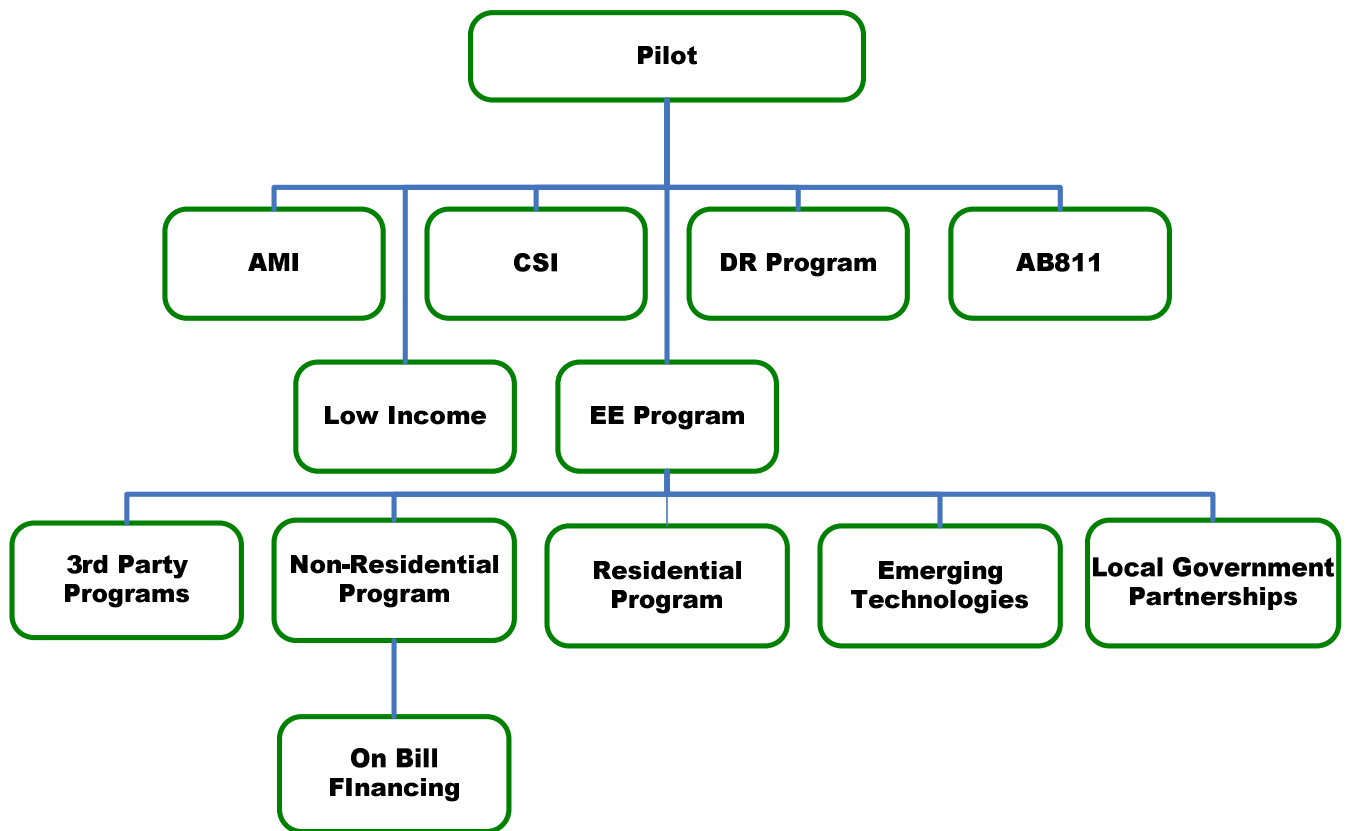
Not Applicable

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h) EM&V

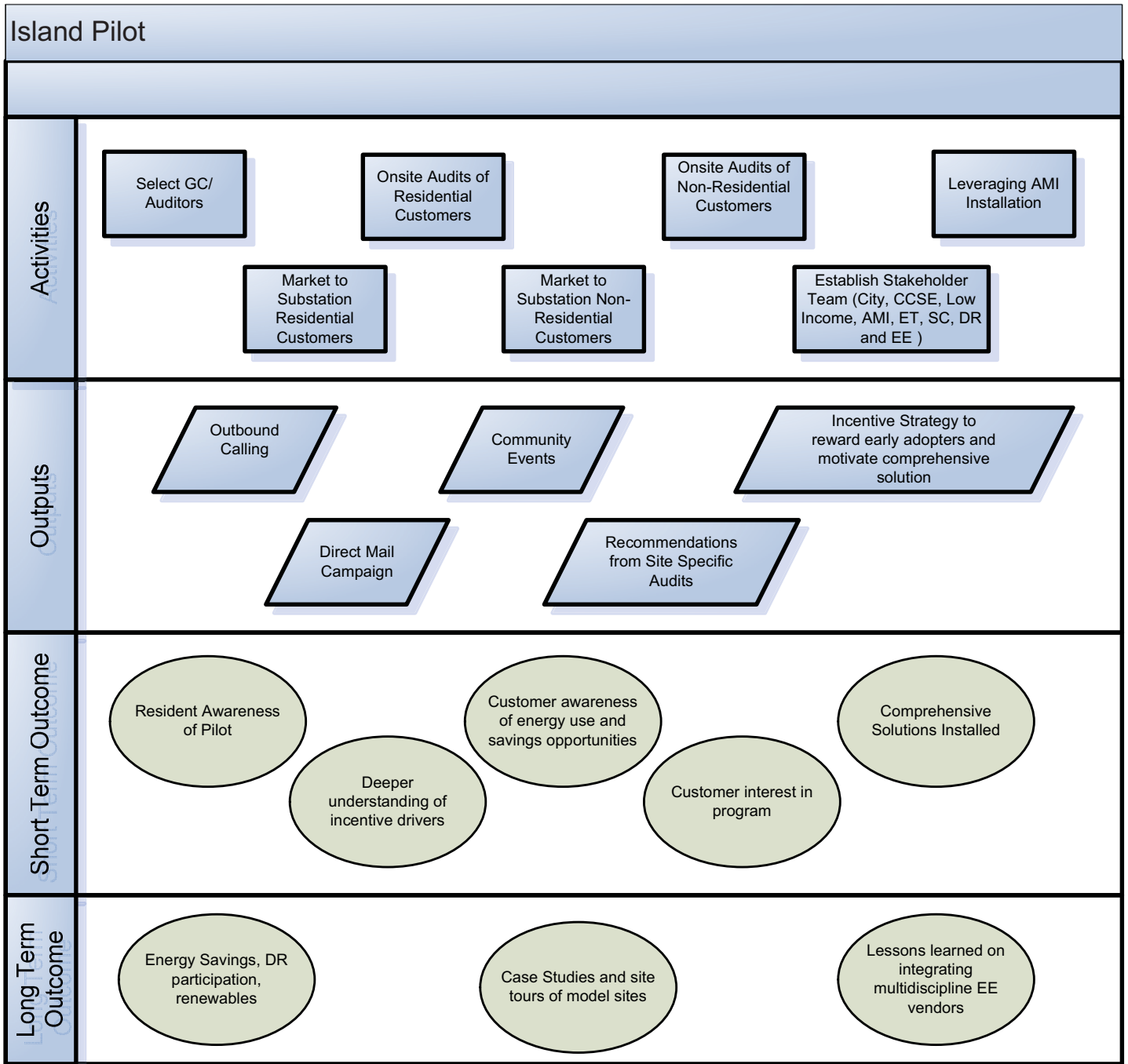
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program



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8) Program Logic Model



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- 1) Program Name and Program ID number: Local Non-Residential Program (BID)
Program ID #: TBD
- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
Local Programs						
	Local03 - Local Non-Residential (BID)	4,123,798	489,090	21,884,045	0	26,496,933
	TOTAL:	\$ 4,123,798	\$ 489,090	\$ 21,884,045	\$ -	\$ 26,496,933

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget.

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
Local Programs				
	Local03 - Local Non-Residential (BID)	63,430,002	7,147	3,591,912
	TOTAL:	63,430,002	7,147	3,591,912

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates.

- 4) Program Description
 - a) Describe program

The San Diego Gas and Electric (SDG&E) Local Non-Residential Program (LNRP) is a customized incentive program designed to fit the unique needs of non-residential customers.

LNRP will serve all non-residential market segments within the SDG&E service territory. Non-residential market segments include: Wholesale/Retail/Office, Government/Utilities, Hospitality/Services, Manufacturing/Processing Industries, Institutional, and

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
 Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for Energy Programs has specific estimated savings and demand impacts.

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Agriculture/Construction. Each segment has distinct energy use patterns, differences in equipment and facility design, and various management structures and decision-making processes. Because each market segment is unique, LNRP will favor a flexible, customized, and customer-focused approach. This approach will ensure LNRP's adaptability to the specialized needs of each market segment.

LNRP will provide incentives for Energy Efficiency (EE) projects (energy-efficient retrofits or replacement of existing equipment at SDG&E customer sites). To qualify, a project must save at least 500,000 kWh per year for electric projects or 25,000 therms per year for gas projects. To maintain flexibility in the Program, the minimum savings amount may be lowered for pilot programs, measures that do not qualify for other SDG&E EE programs, and the discretion of the SDG&E program manager.

Participants may be either customers or energy-efficiency service providers (EESPs) acting as project sponsors for activities at customer sites. A project may consist of a single site or an aggregation of measures from multiple sites belonging to multiple customers. While only large customers typically have enough savings to self-sponsor a project, small customers may participate indirectly through an EESP.

LNRP can be tailored to fit the needs of the customer. Participating customers, taking into account their unique energy requirements, will propose or "bid" to SDG&E an EE project and incentive level that makes sense for their business. Incentives can cover up to 100% of the project's measure costs, up to certain limits (\$/kWh or \$/therm) that vary by measure type. Measurement and Verification (M&V) will be required for all projects. As a performance-based incentive program, the approved M&V report will ultimately determine the energy savings for each project. The total sum of incentives paid for a project may not exceed the amount "bid" by the customer and agreed to by SDG&E.

New to this program cycle, LNRP will offer three ways for customers to increase the level of incentive they receive for installed measures. First, a customer can receive a 10% incentive bonus upon participation in a Demand Response program. A 5% incentive bonus will be offered to customers that expedite measure installation and complete their EE project within 90 days. Finally, in support of statewide initiatives to address Climate Change, customers who complete the LNRP Program will be eligible to receive one-year complementary membership to The Climate Registry and cost assistance to measure and verify Greenhouse Gas (GHG) emissions.

Another program innovation, which is new in this program cycle, is the development of the "Green Energy Systems" program. Green Energy Systems is an innovative offering that would give SDG&E the ability to own or finance large energy-efficient systems located at customer facilities. The purpose of Green Energy Systems is to capture energy savings from large, long-lived, and efficient equipment often lost due to the preference to purchase less efficient systems with lower upfront costs. Details on this new offering are provided in Program Implementation Plan (PIP) section 6d titled Innovation.

LNRP will also offer a Pilot to engage the Government/Utilities and Institutional market segments. In the SDG&E territory, the Government/Utilities segment represents 20% of annual energy use in non-residential markets, but only 3% of the total 2006-2008 EE savings portfolio.

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The Institutional segment, specifically schools and non-profit organizations, are often discouraged from participating in EE programs due to budget limitations and long capital-planning lead times. In response to the individual needs of these customers, the LNR Pilot will offer technical assistance services that include energy audits and project design/development as well as M&V post-installation.

The focus of LNR is to effect lasting market transformation through the installation of large, customized energy efficiency projects. To maintain this focus and ensure continuous program improvement, the SDG&E Program Manager will coordinate with the Investor-Owned Utility (IOU) teams for the Statewide Agriculture, Commercial, and Industrial EE programs. Through coordination, the SDG&E Program Manager will be able to offer up program developments and lessons learned to the statewide team, and incorporate innovations from the other IOUs into new pilots for the LNR. This system will ensure that useful findings and approaches will be quickly mainstreamed into the LNR during the course of the 2009-2011 implementation cycle.

b) List measures

The targeted measure types include Lighting/Daylighting, HVAC/Refrigeration, central plant optimization via variable speed drives, and advanced and other technologies.

c) List non-incentive customer services

The LNR Pilot provides targeted assistance to public agencies and non-profit organizations not in competition with the private sector. The Pilot will offer technical assistance services that include energy audits and project design/development in order to alleviate pressure on staffing and conquer the technical barriers blocking many public agency projects from being identified and implemented.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective Efficiency Measurement & Verification (EM&V) staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities

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respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

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b) Market Transformation Information

As explained immediately above, the utilities propose to provide these draft metrics when available.

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

c) Program Design to Overcome Barriers:

In general, LNRP is an energy efficiency retrofit program designed to address barriers due to: (1) budgetary planning horizons (e.g., fiscal year planning versus calendar year planning) that differ from California Public Utility Commission (CPUC) program funding cycles, (2) longer planning horizons that do not coincide with program funding period, (3) new and innovative technologies, and (4) statewide limitations on the maximum incentive payments to individual customers or project sponsors. LNRP overcomes these barriers by providing financial incentives for SDG&E customers, contractors, vendors and/or project sponsors who submit unique and innovative nonresidential energy-savings projects and/or programs, and propose an incentive amount (within program guidelines) necessary to implement the project. Incentives may cover up to 100% of the project’s measure costs, up to certain limits (\$/kWh saved or \$/therm saved) that vary by measure type. The desired results of LNRP are to encourage a higher degree of energy-efficiency market penetration by increasing the amount of comprehensive high efficiency measures being installed.

LNRP is designed to meet customer and project sponsor needs, and quickly maximize energy savings and peak load reductions from nonresidential customers. The small customer component allows project sponsors to aggregate different customer sites to create participation from customers who are unable or unwilling to participate in the Statewide Calculated and Deemed programs. Public agencies in particular require a long project approval lead time which presents a time barrier when competing with private industry for incentive funds. The LNRP Pilot will be designed to focus on the specific and unique needs of individual public agencies and non-profit organizations and will address the time, staffing, and technical resource barriers facing this market segment. The Pilot will offer technical assistance services that include energy audits and project design/development in order to alleviate pressure on staffing and conquer the technical barriers blocking many public agency projects from being identified and implemented.

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d) Quantitative Program Targets:

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1			
Target #2			
Target #3			
Target #4			

[e.g. Target #1: 20,000 refrigerators recycled by 2011; or Partnerships with 5 of the 10 top homebuilders by 2010]

e) Advancing Strategic Plan goals and objectives:

The unifying objective of the California Long Term Energy Efficiency Strategic Plan (Strategic Plan) is to employ market transforming strategies to encourage marketplace adoption of energy efficient measures to a point that public investment in energy efficiency is no longer necessary (Strategic Plan, Section 1, page 4). The LNRP will support this effort by employing three of the five market transformation policies identified in the Strategic Plan. Specifically, LNRP will offer “carrots” in the form of financial incentives to help pull the marketplace towards energy efficiency. LNRP, through the Pilot, will provide technical assistance and auditing services. Finally, LNRP will also provide education and informational resources through marketing and program outreach efforts. These three program elements will work in concert to transform the market towards sustained, long-term energy savings.

The Strategic Plan’s “Big Bold” Energy Efficiency Strategy #3 is: “HVAC will be transformed to ensure that its energy performance is optimal for California’s climate” (Strategic Plan, Section 1, page 6). The LNRP implements this strategy by offering financial incentives that reduce the first costs of new HVAC equipment, often the most expensive energy efficient measure that customers face.

The LNRP will be applied broadly across commercial, industrial and agricultural sectors. The Program will reduce capital costs of large scale, comprehensive energy efficiency projects and systems improvements. When combined with the efforts of the Statewide EE programs and the financial flexibility offered by On-Bill Financing, LNRP will directly assist Agricultural Sector Goal 3 of the Strategic Plan, which promotes holistic energy efficiency improvements on the farm- or facility-scale. When applied to the Commercial Sector, this Program element will make the deep energy savings of Strategic Plan’s Zero Net Energy (ZNE) goals more affordable, bringing ZNE within reach for owners of existing commercial structures.

In support of Strategic Plan Workforce Education and Training (WE&T) goals, LNRP will offer training seminars both in-house and at local educational facilities such as the California Center for Sustainable Energy. The training sessions will focus on LNRP

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program requirements and participation details. In addition, specific trainings on the measures LNR incents, such as lighting, HVAC and motors, will be provided. Trainings will be advertised on the SDG&E website and promoted by SDG&E Account Executives, trade associations and business groups.

Near Term 2009-2011 Action Steps for the Commercial Sector include “Build and quantify strong business case for DSM/GHG reduction” and “Identify tools, instruments, and information necessary to attract capital to EE.” LNR offers three ways for customers to increase the value of their EE incentive: LNR will reward customers who expedite installation, participate in DR programs, and/or express interest in verifying and tracking their GHG emissions. The strong incentive package offered by LNR will attract new capital to EE as well as facilitate Demand-Side Management (DSM) integration and GHG reduction.

6) Program Implementation

a. Statewide IOU Coordination:

In implementing the Local Non-Residential Program (LNR), SDG&E will continue coordination with other local and statewide agencies, program sponsors and other 3rd party programs to promote energy-efficiency, eliminate overlaps, and provide outreach to customers and project sponsors. In addition, the SDG&E LNR, Calculated and Deemed teams will continue to coordinate joint efforts at seminars, trade shows and conferences using all available resources. When a business customer contacts SDG&E to establish a new account, a lead will be generated to the energy efficiency group.

b. Program delivery and coordination:

i. **Emerging Technologies program:**

N/A (this Program does not seek to influence emerging technologies).

ii. **Codes and Standards program:**

N/A (this Program does not seek to influence codes and standards).

iii. **WE&T efforts:**

LNR will offer training seminars both in-house and at local educational facilities such as the California Center for Sustainable Energy. The training sessions will focus on LNR program requirements and participation details. In addition, specific trainings on the measures LNR incents, such as lighting, HVAC and motors, will be provided. Trainings will be advertised on the SDG&E website and promoted by SDG&E Account Executives, trade associations and business groups.

iv. **Program-specific marketing and outreach efforts (provide budget):**

LNR will be presented to customers and contractors in a variety of formats, including but not limited to: (1) program kick-off meetings, (2) seminars, (3) e-mail, (4) direct mail, (5) internet, (6) direct contact by SDG&E’s Account Executives and other representatives. LNR will also target business customers, ESCOs, trade associations,

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other local business groups and government entities to generate interest and participation in the program. As part of the Pilot, additional marketing activities will include, but are not limited to, program informational materials, website development and updates, participation in sponsored events, press releases and general media attention. SDG&E will market the Pilot to public agencies and non-profit organizations.

- v. **Non-energy activities of program:**
N/A to this Program.
- vi. **Non-IOU Programs:**
N/A to this Program.
- vii. **CEC work on PIER:**
N/A to this Program.
- viii. **CEC work on codes and standards:**
N/A to this Program.
- ix. **Non-utility market initiatives:**
N/A to this Program.

Implementation efforts will include any necessary updates to the development and design of program literature, application forms, promotional items, direct mailers, and other appropriate program literature, as needed to effectively implement the Program. Program implementation for the Pilot component consists of technical assistance services which will include, but not be limited to: energy audit consultation, project design assistance, Request for Proposal (RFP) development, funding identification, contractor coordination, facility staff education, incentive proposal, and coordination with other applicable programs. While this Program does not specifically target new construction, initial assistance will be provided to ensure that any supported customer new construction activities are channeled to the SDG&E new construction program. This task will be included as part of the technical assistance provided to the participants.

c. Best Practices:

The LNR Program approach constitutes “best practice” by:

- Providing cost-effective energy efficiency.
 - LNRP reimburses up to 100% of the energy efficiency project cost.
- Producing significant energy savings as a result of required M&V.
 - The incentive options offered by LNRP have seen high participation due to the Program’s flexibility in customizing appropriate energy efficiency solutions for a diverse range of customers.
- Focused cost-effective resource program.
- Avoiding lost opportunities by utilizing an in tandem total approach.
- Producing both short and long term energy savings.
- Producing co-branding opportunities which support the reduction of greenhouse gases.

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- LNRP will be co-branded with SDG&E’s “Cool Planet Project” program and assist participants to verify and report annual greenhouse gas emissions.
- Providing an application process that is both easy and friendly to complete.
 - Once an LNRP project has been approved, customers/Project Sponsors can track the progress via a web based tracking system in which Program Manager can further facilitate the review and payment process.
- Developing new Pilots to test innovative approaches that achieve deeper savings.

d. Innovation:

An innovation of LNRP is its interface with a web-based customer support system. Once the project has been approved, customers/Project Sponsors can track the progress of projects via a web based Extranet project tracking system. The SDG&E Program Manager will work closely with the Project Sponsor to facilitate the review and payment process.

Another innovative approach is how the project measurement & verification (M&V) is handled. Customers/Project Sponsors have the option of having SDG&E engineers or independent third-party contractor perform the project M&V at no cost. Alternatively, Project Sponsors can perform the project M&V themselves. Through the Pilot, public agencies and non-profit organizations will be provided with technical services to complete the project M&V analysis.

To encourage faster project turnover and enhance coordination with Demand Response programs, LNRP offers two innovative incentive “bonus” features. First, customers can receive a 10% incentive bonus upon enrollment and participation in a Demand Response program. Secondly, a 5% incentive bonus will be offered to customers that expedite measure installation and complete their EE project within 90 days.

Furthermore, LNRP is innovative in that it directly supports regional efforts to control and reduce greenhouse gas emissions. LNRP is co-branded with SDG&E’s “Cool Planet Project.” The Cool Planet Project is a program that rewards LNRP participants with an annual membership to The Climate Registry and cost-assistance to verify and report annual greenhouse gas emissions.

Finally, SDG&E often encounters customers who are presented with the opportunity to maximize energy savings on a major energy systems project (*e.g.* chiller system, boiler, co-generation), but for reasons such as scarce capital or perceived risk elect not to make the investment in the highest efficiency option. This results in a lost opportunity for energy savings for the 20 to 30-year life of the equipment. To avoid this lost opportunity, SDG&E proposes the development of a “Green Energy Systems” program. Green Energy Systems is an innovative program offering that would give SDG&E the ability to own or finance large energy systems located at customer facilities. Utility-owned or financed projects would be required to maximize the use of cost effective equipment. The customer would then pay, in concept, a surcharge that is lower than the incremental energy savings they are experiencing and would thus have a positive cash flow.

2009 – 2011 Energy Efficiency Programs
Local Non-Residential Program (LNR)
Program Implementation Plan

Some of the benefits of utility-owned or financed major energy systems include:

- Reduction in the customer's upfront capital cost for the investment
- High level of reliability and performance resulting in higher probability of achieving energy efficiency, demand response, and environmental goals
- Improved customer access to a range of energy services, expertise, resources, programs and experience provided by SDG&E
- Contribution to customer and utility goals for EE, DR, and GHG reduction

Projects would be reviewed on a case by case basis. The funding required would be treated as incremental capital. At this time, SDG&E is not requesting funding for the Program. Each project would be evaluated on the basis of cost effectiveness and secure energy savings that would not otherwise have been achieved in the plan originally envisioned by the customer. As projects are identified, SDG&E will request approval by the CPUC through the Advice Letter process.

e. Integrated/coordinated Demand Side Management:

An identified challenge to integrating energy efficiency and demand response programs is that communications of both types of programs are often non-coordinated, since energy efficiency is typically technology based and demand response is often focused on behavior. Also, demand response efforts often happen prior to the summer "event season" and wane throughout the remainder of the year. To overcome these differences, the LNRP will be offered in an integrated and coordinated year-round marketing effort, showcased in consolidated applications, collateral, web sites, and events, where applicable. By being a part of a bundling of program elements and offerings, customers will have the opportunity to enroll in demand response programs and other energy efficiency programs in addition to LNRP.

LNRP will directly encourage participation in DR programs. LNRP participants who enroll in a DR program may be eligible to receive an increase in their LNRP incentive payment.

f. Integration across resource types (energy, water, air quality, etc):

LNRP supports regional efforts to control and reduce greenhouse gas emissions. When customers participate in LNRP, they are eligible to participate in SDG&E's Cool Planet Project. The Cool Planet Project is a program that rewards LNRP participants with an annual membership to The Climate Registry and cost-assistance to verify and report annual greenhouse gas emissions. These benefits are in addition to the incentive payments offered by LNRP.

g. Pilots:

The LNRP Pilot will be offered to municipalities, non-profit organizations and K-12 schools. The Pilot will offer technical assistance services that include energy audits and project design/development in order to alleviate pressure on staffing and conquer the

2009 – 2011 Energy Efficiency Programs
Local Non-Residential Program (BID)
Program Implementation Plan

technical barriers blocking many public agency projects from being identified and implemented.

To engage these market segments, the Pilot will be promoted through project sponsors who will be able to aggregate small projects to meet the LNRP EE savings threshold requirements. SDG&E will offer a comprehensive audit, project design/development services, and M&V for each Pilot customer.

Marketing activities for the Pilot include, but are not limited to, program informational materials, website development and updates, participation in sponsored events, press releases and general media attention. SDG&E will create program materials specifically to identify the Pilot component of LNRP and provide to any public agency and non-profit as necessary.

h. EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

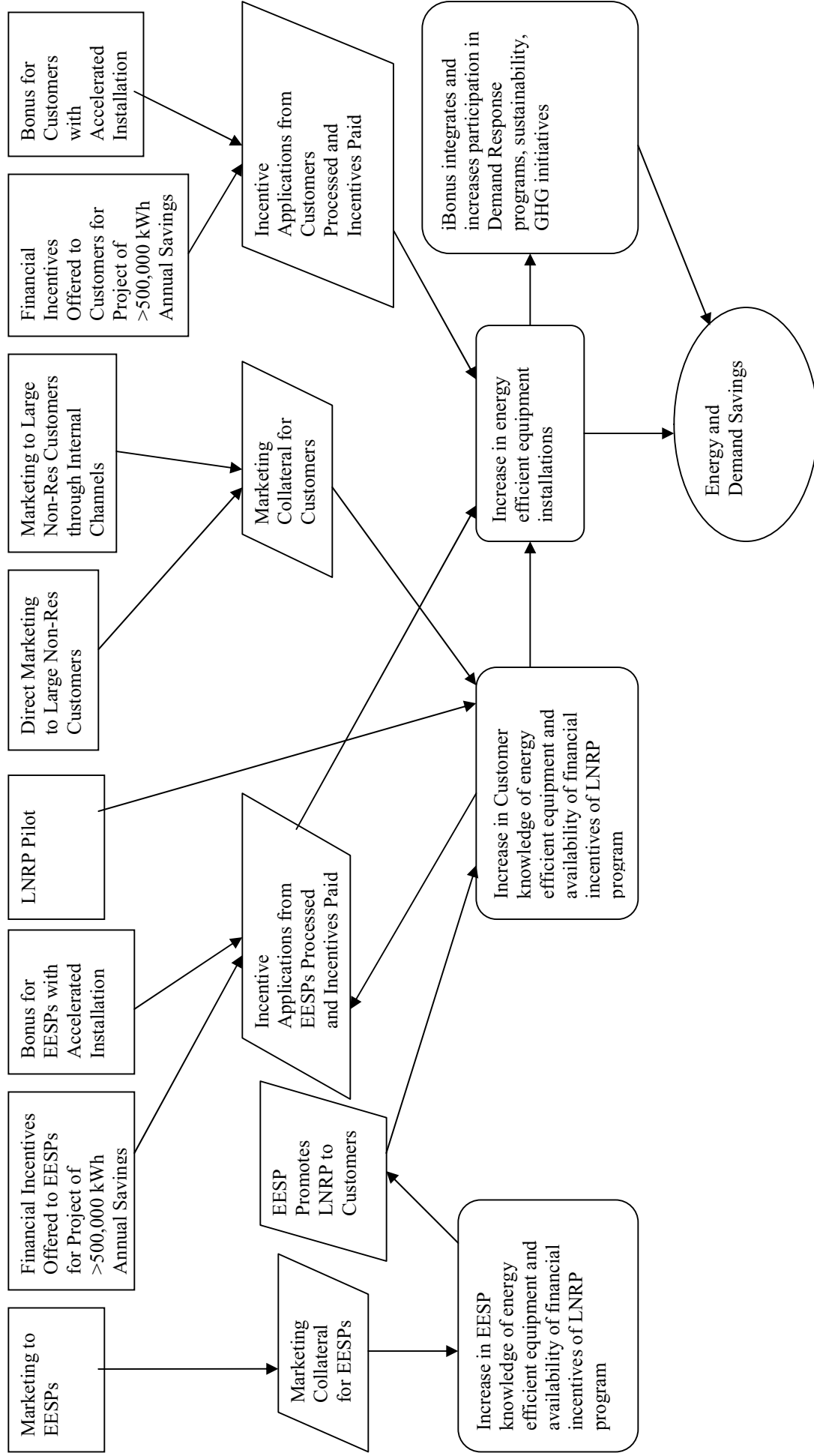
7) Diagram of Program:

8) Program Logic Model:

Please refer to the LNRP Logic Model on the following page.

2009 – 2011 Energy Efficiency Programs
 Local Non-Residential Program (BID)
 Program Implementation Plan

Local Non-Residential Program: Logic Model



2009 – 2011 Energy Efficiency Programs On-Bill Financing Program Implementation Plan

- 1) Program Name: On-Bill Financing (OBF)
Program ID: N/A

Note, OBF is not an actual program, but rather a funding mechanism for other programs. Thus many sections of the PIP template are not applicable to OBF.

- 2) Projected Program Budget

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
Local Programs						
	Local05 - OBF	1,901,984	302,573	420,443	0	2,624,999
	TOTAL:	\$ 1,901,984	\$ 302,573	\$ 420,443	\$ -	\$ 2,624,999

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
Local Programs				
	Local05 - OBF			
	TOTAL:	0	0	0

Note: This program is a mechanism for facilitating energy savings and energy savings are claimed via core programs.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description²

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here
Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).
Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.
Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.
Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.
Total Budget is the sum of all other columns presented here
Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009 – 2011 Energy Efficiency Programs On-Bill Financing Program Implementation Plan

The On-Bill Financing Option is designed primarily to facilitate the purchase and installation of comprehensive³, qualified energy efficiency measures by customers who might not otherwise be able to act given capital constraints and/or administrative and time burdens. It is designed to build on the success of the 2006-2008 program cycle offering. SDG&E proposes to establish a \$9 million sustainable loan pool from non-PGC ratepayer funds to fund loans during 2009, 2010 and 2011.

Approved customers who install comprehensive projects are eligible to receive a full rebate or incentive from the participating programs and to finance the balance of comprehensive, qualified energy efficiency and demand response measures. Loan is not transferable. Partial or non-payment of loan could result in shut-off of utility service and turned over for collection.⁴

Option Features

- Interest-free, unsecured loans
- Non-Institutional customers⁵: Loans offered per meter from \$5,000-\$100,000 with a maximum five year loan term
- Institutional customers⁶: Loans offered per meter from \$5,000- \$250,000, with a maximum loan term of ten years or useful life of measure(s) (whichever is shorter)
- Monthly payment on a term loan is billed on the participating customer's utility bill.
- No penalty for early repayment

Eligible Customers:

- Non-residential customers (including institutional customers) and owners of multifamily units who do not reside on the premises.
- Must have continuous utility service with SDG&E for at least the 24 immediately preceding months in the same business and with a minimum of 12 months of energy usage history at the current meter.
- Must be in good credit standing as determined by the Utility

Project Eligibility

- Measures and/or equipment must be installed at the meter of the account holder of record in which the loan is being made.⁷

² For history and additional information, see Prepared Direct Testimony of Athena Besa and Mark Gaines 7.28.08

³ Comprehensive is defined as two or more distinct measure types not including CFLs or delamping.

⁴ Per Rule No. 40 On-Bill Financing Program

⁵ Non-Taxpayer-funded non-residential customers and owners of multifamily units who do not reside on the premises

⁶ Tax-payer funded government institutions such as counties, cities, etc.

2009 – 2011 Energy Efficiency Programs
On-Bill Financing
Program Implementation Plan

- Project must meet terms and conditions of one or more programs offered through the Utility
- Project must meet “simple payback” criterion
 - Projected energy savings are used to calculate payback period
- Loan term is tied to the payback period
 - Maximum project payback for tax payer–funded Institutions is 10 years or useful equipment life (whichever is shorter); for all other projects it is 5 years.

5) Program Rational and Expected Outcome

In accordance with the California Energy Efficiency Strategic Plan, the On-Bill Financing Option will increase comprehensive participation in energy efficiency programs across sectors and local government partnerships, while addressing untapped energy efficiency potential. OBF will focus on quality audits and installations to address all feasible end-uses. Furthermore, Institutional entities that may have limited participation traditionally in energy efficiency programs due to capital constraints and long budget cycles will be targeted for energy efficiency measures and financing. Proponents advocating for the inclusion of the On-Bill Financing Option in overall utility portfolios argue that the availability of this type of opportunity allows more customers to participate in energy efficiency programs.

On-Bill Financing will leverage existing energy efficiency programs.

Desired results of the OBF Option are:

- Promote high efficiency measure installations and increase participation in energy efficiency programs
- Provide incremental energy savings from increased customer participation and ability to install a more comprehensive package of measures
- Provide convenient, accessible financing for customers to utilize with energy efficiency and demand response programs and ease of repayment through the utility bill

⁷ **Projects may be combined if the meters have identical customer of record, are on the same premise (per SDG&E Rule 1), meet all credit criteria and the total for combined projects meets loan minimum, maximum and payback criteria**

**2009 – 2011 Energy Efficiency Programs
On-Bill Financing
Program Implementation Plan**

a) Quantitative Baseline and Market Transformation Information:

Table 3:

	Baseline Metric		
	<u>Metric A</u>	<u>Metric B</u>	<u>Metric C</u>
Overall Program			
Sub-Program #1			
Sub-Program #2			
Sub-Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

**2009 – 2011 Energy Efficiency Programs
On-Bill Financing
Program Implementation Plan**

b) Market Transformation Information

Table 4:

Internal Market Transformation Planning Estimates			
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

d) Quantitative Program Targets:

Table 5:

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1			
Target #2			

e) Advancing Strategic Plan Goals and Objectives:

6) Program Implementation

a. Statewide IOU Coordination:

OBF will be administered as a local funding mechanism.

b. Program delivery and coordination:

Loans will be offered in program years 2009, 2010 and 2011, or until loan funds are spent and/or committed. Marketing efforts for OBF will be integrated with utility and third party energy efficiency offerings.

SDG&E has made a number of modifications to existing systems and procedures to facilitate implementation of OBF. These modifications are transparent to the customer, involving enhancements to the customer information database, billing system and bill format. Additionally, changes to tariffs and rules have been filed with the Commission and internal procedures and processes updated.

2009 – 2011 Energy Efficiency Programs
On-Bill Financing
Program Implementation Plan

Marketing messages and materials will be integrated in the individual energy efficiency programs as well as in utility information and outreach programs. OBF materials such as application forms, loan agreements and disclosure notices will be updated to reflect program cycle guidelines.

Utility will review applications submitted by customers, contractors and account executives for compliance with credit check criteria and project payback. Utility will notify parties of approved applications and provide loan documents for customer signature; customers failing to meet the credit check or payback criteria will be referred to the appropriate energy efficiency program(s). Upon notification that installation is complete and receipt of appropriate paperwork, utility will verify installation and release funds.

Upon release of funds, utility will enter loan payment into the billing system. Utility will begin monitoring remittance activity, tracking accounts moving into collections and analyzing any loans going into default.

Customers interested in installing energy efficiency improvements at their facilities may become aware of the utility's energy efficiency programs in a number of ways: through direct marketing, through their contractor or from a utility account executive. The customer, working with their account executive or contractor, will decide upon the comprehensive package of energy efficiency measures to be installed. Upon notification of approval to participate in the OBF option, the customer will schedule installation by the contractor. After installation is complete, utility will inspect installed measures, release the funds for the project's authorized costs and customer's loan repayment will begin appearing on the monthly utility bill during the next billing cycle.

- i. Emerging Technologies program – On-Bill Financing is applicable to Emerging Technologies.
- ii. Codes and Standards program – On-Bill Financing is not applicable to the Codes & Standards program.
- iii. WE&T efforts - On-Bill Financing is not applicable to WE&T efforts.
- iv. Program-specific marketing and outreach efforts (provide budget) – Using knowledge gained from the Phase I On-Bill Financing Program pilot, SDG&E will enhance its marketing efforts to ensure broad participation in the program. Such marketing plans will build on previous successes and help to ensure integration of the On-Bill Financing Program with other SDG&E programs.
- v. Non-energy activities of program – This is not applicable to the On-Bill Financing Program.
- vi. Non-IOU Programs -
- vii. CEC work on PIER – This is not applicable to the On-Bill Financing Program. However, SDG&E will work with customers to help take advantage of the CEC's Energy Efficiency Financing Program.

2009 – 2011 Energy Efficiency Programs
On-Bill Financing
Program Implementation Plan

- viii. CEC work on codes and standards - This is not applicable to the On-Bill Financing Program.
- ix. Non-utility market initiatives – SDG&E will partner with local financial institutions to support loans to customers for energy efficiency projects. In addition, SDG&E is one of the major sponsors of “The Energy Loan”, a Fannie Mae special product developed to provide homeowners with an unsecured finance option for specified energy efficient home improvements.

- c. Best Practices: SDG&E’s On-Bill Financing Program will strive to ensure incorporation of best practices. A formal EM&V “process evaluation” of SDG&E’s OBF program was conducted early in the implementation of the program and the program has incorporate a number of the study’s recommendations to help improve its practices.
- d. Innovation: The On-Bill Financing Program has sought to provide customers a creative option for financing their energy efficiency investments and will continue to explore new and different ways to expand upon the current program while researching other avenues of financial assistance.

- e. Integrated/coordinated Demand Side Management: The OBF Option will be offered in conjunction with energy efficiency and demand response programs including, but not limited to the Express Efficiency Rebate Program, Small Business Super Saver Rebate Program, Energy Savings Bid Program, Standard Performance Contract Program, Savings By Design Program, Emerging Technologies Program, Multifamily Energy Efficiency Program, Utility Third Party Programs, SDG&E Partnership Programs and Technological Assistance and Technology Incentives.

In addition, SDG&E plans to explore ways to assist customers in developing “Green Energy Systems”. Green Energy Systems could be large energy projects (e.g. chiller system, boiler, co-generation) that customers cannot pursue due to financial limitations. Such systems lend themselves to incorporation of Integrated Demand-Side Management features including demand response or solar. Utility-owned or financed projects would be required to maximize the use of cost effective equipment. The customer would then pay, in concept, a surcharge that is lower than the incremental energy savings they are experiencing and would thus have a positive cash flow but for reasons such as scarce capital or perceived risk, elect not to make the investment in the highest efficiency option.

- f. Integration across resource types (energy, water, air quality, etc): This is not applicable to the On-Bill Financing Program.

- g. Pilots: During 2006-8, SDG&E conducted Phase I of its On-Bill Financing pilot and proposes to continue into Phase II during 2009-11.

**2009 – 2011 Energy Efficiency Programs
On-Bill Financing
Program Implementation Plan**

- h. EM&V:
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.
- 7) Diagram of Program – This is not applicable to the OBF.
- 8) Program Logic Model – This is not applicable to the OBF.

2009-2011 Energy Efficiency Programs Strategic Development and Integration Program Implementation Plan

1. Projected Program Budget

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
Local Programs						
	Local06 - Local Strategic Development & Integrat	2,096,387	0	0	0	2,096,387
	TOTAL:	\$ 2,096,387	\$ -	\$ -	\$ -	\$ 2,096,387

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

2. Projected Program Impacts

This is a non-resource program and, therefore, has no projected program impacts.

3. Brief Program Description

In order to create market transformation in California, SDG&E is committed to the vision and goals outlined in the California Energy Efficiency Strategic Plan. This plan includes customer segmentation and targeted program development and the integration of EE/DSM and emerging high efficiency technologies coupled with innovative and comprehensive program design and theory,. A focused team of qualified resources has been identified to support these activities and drive the direction of the programs through innovation and the inclusion of best practices. This team will be dedicated to this activity and will act as a coordinating entity by collaborating with regulatory, program, technology and other staff.

The team will be specifically responsible for overseeing activities associated with achieving strategic plan goals and ensuring that the strategic plan itself is updated so that it provides relevant guidance and direction on a continuous basis. The team will be responsible for:

- Cooperatively developing milestones toward achieving strategic objectives and evaluating the progress of programs toward these milestones as well as meeting sector goals.
- Facilitating the evolution of program design to ensure support of the long term strategic vision and direction.
- Researching, identifying and supporting incorporation of best practices in both current and future programs.
- Providing guidance and acting as an ongoing information source for pilot programs, integration activities and program innovations associated with emerging technologies, best practices, and market awareness.
- Representing SDG&E in Strategic Planning activities. This includes the representation of SDG&E at all California Strategic Planning meetings. SDG&E subject matter

2009-2011 Energy Efficiency Programs Strategic Development and Integration Program Implementation Plan

- experts will provide input as the plan evolves in order to keep it current and valuable. The team will share lessons learned and successful strategies with the other IOUs.
- Incorporating stakeholder input in the long-term planning process, collaborating with other utilities and the CPUC to conduct public workshops such as an annual California Energy Efficiency Summit.
 - Acting as a liaison between external parties and internal staff to ensure that there is a complete and ongoing feedback loop with lessons learned and recommendations being fully shared and leveraged.
 - Ensuring that, as specific objectives emerge and the plan evolves, lessons learned are available for incorporation into existing programs as well as for future planning.
 - Collaborating with the Emerging Technologies group to ensure that cutting edge technologies are quickly adopted and incorporated into the programs thru 2011 and beyond.
 - Working in partnership with, and providing information and guidance to, program sector management to ensure that interim milestones and approaches are directed toward the long-term vision.

Having a team dedicated to facilitating strategic activities and supporting the integration of activities, technologies and other innovations will allow SDG&E to continue providing a high level of customer service, capturing savings under current program design while avoiding lost opportunities associated with unproven and more inventive approaches.

4. Program Rationale and Expected Outcome

Energy efficiency programs play a critical role in promoting and developing markets for energy efficient products. Rebate offerings and promotions influence both retailers and end users alike, with incentives stimulating demand and product availability. While media coverage has increased the population's receptivity toward energy efficiency, new technologies with quality concerns are still slow to be adopted, and utility sponsored programs are required to provide impetus for use. Through utility sponsored programs and specific pilot opportunities, emerging technologies are more readily accepted by a larger group of early adopters and move more rapidly into the mainstream.

Targeting specific market segments with integrated and comprehensive solutions provides the ability to penetrate individual market environments much more deeply. Today's industries and buying habits are changing rapidly due to industry changes, regulations and outside influences. Programs and distribution channels need to be well thought out, customer centric, flexible, comprehensive, and able to adapt quickly in order to meet the needs and gain momentum to transform the market itself.

Achieving the strategic goals outlined in the plan will require SDG&E to be responsive, proactive and creative in all aspects of program design, delivery channels and distribution

2009-2011 Energy Efficiency Programs Strategic Development and Integration Program Implementation Plan

approaches. New concepts and emerging technologies need to be incorporated in order to maintain relevance and to capture savings that might be otherwise lost.

Challenges:

- Retailers are reluctant to stock high efficiency products that are not competitively priced.
- Consumers have limited knowledge of the breadth of products available.
- Newer technologies that have not been mass-produced have not yet proven themselves commercially, being too expensive for current market and not readily available in the market place.
- Slow adoption of ground-breaking or novel technologies that users consider unproven.
- Many potentially promising ideas are not fully developed due to lack of monies or proof of concept.
- Developing and leveraging expertise which requires a significant investment in time and effort that is difficult to maintain while balancing current operational needs.

Opportunities:

- Increased customer acceptance of “Green messaging”.
- Statewide cooperation on strategic initiatives
- Sustained utility support of manufacturers and retailers to introduce new technologies at a more competitive price.
- Increasing market focus to promote comprehensive and integrated solutions.
- Targeted solutions and tracking of market segments to provide new insights into promising approaches.
- Implementation of concrete solutions providing continuous improvement toward achieving long-term goals.
- Leverage ideas, best practices and other lessons learned statewide.
- Identification of regional, state and national best practices for relevance to and implementation by SDG&E

SDG&E has assigned a dedicated team as a single point of contact to work collaboratively with internal and external participants and stakeholders, to provide focus, and to minimize delays, as a result of the inevitable conflict between operational and strategic needs. The initiatives identified in the current Strategic Plan are designed to address the challenges of the current marketplace and capitalize on current and as yet to be identified opportunities. The implementation of responsible parties and a living process will enable SDG&E to bring high impact ideas and solution to the consumer as quickly as possible to achieve efficient and effective long-term results.

2009-2011 Energy Efficiency Programs Strategic Development and Integration Program Implementation Plan

5. Program Implementation

The team will be dedicated to program and process improvements relative to achieving long-term goals and activities associated with the Strategic Plan and direction. A primary initiative will be to support and refine a market segment based approach to energy management. Working with an integrated team, customer needs will be addressed by offering tailored, comprehensive packages inclusive of Energy Efficiency, Demand Response and Renewables to specific market segments. These activities and their results will actively be tracked to provide lessons learned across the organization and elsewhere to refine approaches and to provide input for future pilots and other inventive approaches to enable California to reach their goals. The team will evaluate each segment/sector's progress and track specific actions including implementation of identified best practices.

A significant amount of research, coordination and oversight will be necessary on an ongoing basis. The team will be responsible for facilitating potential pilot programs, overseeing their activities and identifying those with potential to address savings beyond 2011. These actions will require an understanding of emerging technologies and their values to the market, manufacturing approaches and the development of distribution channels.

Implementation and achievement of the Strategic Plan goals will be overseen by this dedicated team to provide direction, coordination and continuous improvement, implementing new ideas and best practices. An ongoing basis the plan will be updated to ensure that the strategies and approaches evolve as the markets transform.

2009-2011 Energy Efficiency Programs Sustainable Communities Program Implementation Plan

1) Program Name and Program ID number

Program Name: Sustainable Communities Case Studies Program
Program ID number: TBD

2) 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
Local Programs						
	Local04 - Local Sustainable Communities (RMV)	119,302	45,261	815,915	0	980,478
	TOTAL:	\$ 119,302	\$ 45,261	\$ 815,915	\$ -	\$ 980,478

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
Local Programs				
	Local04 - Local Sustainable Communities (RMV)			
	TOTAL:	0	0	0

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

SDG&E's Sustainable Communities (SC) program provides the framework for the design and building of communities that support the environment through energy- and resource-efficiency. SC helps to enhance quality of life by protecting and preserving natural resources and improving economic development. Incentives and other assistance are available to developers, building owners, and design teams that construct highly energy-efficient buildings with sustainable design, and long-term energy-efficiency.

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A "sub-program" of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for Energy Programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Sustainable Communities Program Implementation Plan

This highly innovative program will be SDG&E's flagship program providing the path for all other programs in meeting California's long-term energy efficiency goals, including zero net energy homes by 2020. This program will enable market transformation resulting in measurable energy efficiency, integrated demand response, distributed generation, renewables and natural resource savings while optimizing long term ecological, social and economic health of California. It accomplishes this by comprehensively integrating the "vertical" development (buildings and their components) with the "horizontal" development (land and utility and transportation infrastructure) over the full planning horizon. This holistic approach to program design and implementation is coupled with a new management model and evolutionary improvements in energy, water and air quality savings over the project life.

Another key feature of SC's flagship approach is its longer-term focus and crosscutting implementation to avoid trapping the key market players in the usual "organizational silos". SC achieves this through the unique partnership between SDG&E and the Master Developer by developing early market interventions deployed by 3rd party implementers upstream of the usual core programs. This innovation produces more productive and resilient market change with greater cost-effectiveness.

Sustainable Design and Construction Training

A training program and training materials will be developed for participating builders and contractors. The training, for both residential and non-residential building, will cover all relevant issues including sustainable design and construction impacting energy efficiency, solar, water, waste, utility infrastructure (smart grid and AMI), and transportation.

A metric of this service will be determined in tracking the impact early intervention and training have on increasing energy-efficient design of residential structures. Developing training goals and objectives, curriculum and tracking of buildings energy performance will be used to measure success of the training. The minimum specifications will be covered in the training developed to help encourage and monitor innovative design and exceeding building performance targets set by the developer and utilities. The utility will support training developed and provided by developers' consultants for builder subcontractors.

The incorporation of a Learning Center within the development is proposed to help educate and build awareness of energy efficiency, renewable generation and sustainable measures that have been incorporated into the development. The Learning Center will create a powerful teaching tool due to its interactive software and real time graphics. This tool could demonstrate the community's energy savings compared to non-efficient developments, showcase the development's green features and show environmental impacts and equivalent comparisons. In addition, kiosks will contain renewable energy education and incorporate actual data related to utility owned on-site generation. The center would be strategically located within the community near a school, library or public center. This location could also be used for utility hosted energy workshops highlighting energy efficiency and green building design.

2009-2011 Energy Efficiency Programs Sustainable Communities Program Implementation Plan

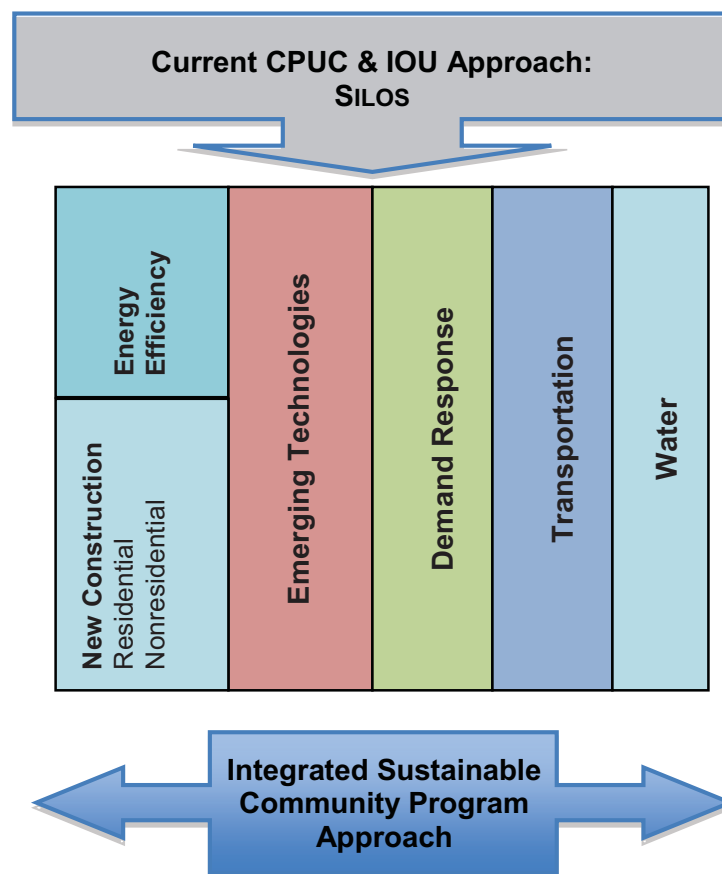
Sustainable Design Assistance

Design assistance will be provided to participating engineers, architects, planners, and builders. The program will encourage innovative and less traditional approaches to meeting and exceeding sustainability goals. Design assistance will occur much earlier in the development process than traditional utility offerings to embrace this flagship program’s crosscutting nature and to better leverage its holistic ambitions and goals.

Residential Modeling Procedure and Protocol Development

Because builders will be required to submit documentation illustrating how their designs will meet the sustainability requirements, this program will develop the modeling procedures and other requirements for this documentation. Sustainability targets would be set at 35% below Title 24² for all residential building and would also include participation in the New Solar Homes Partnership program to foster development of renewable energy on each residential building. Similar energy performance targets would be established for commercial projects with corresponding participation in the CSI program.

Figure 1: Sustainable Communities Crosscutting Approach



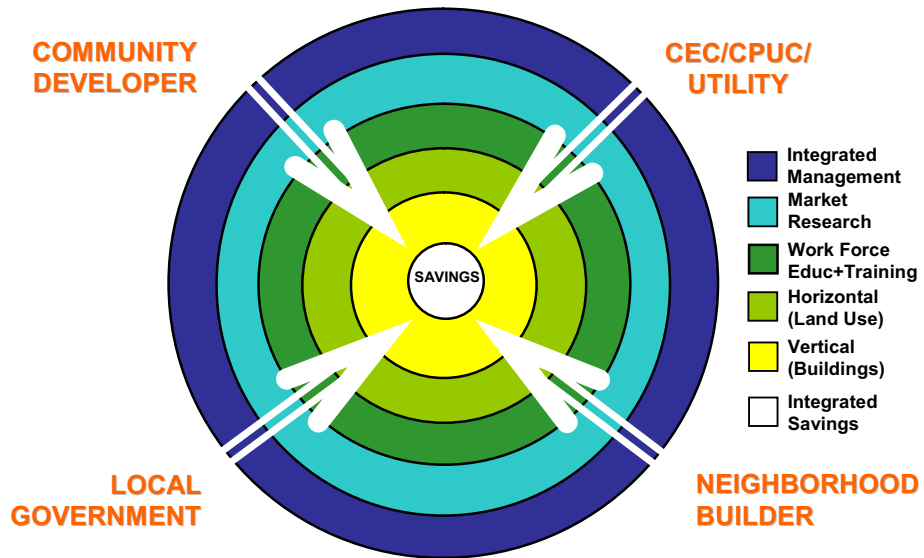
² Title 24 2005.

2009-2011 Energy Efficiency Programs Sustainable Communities Program Implementation Plan

Figure 2: Sustainable Communities Integrated Savings Approach

The New Paradigm . . .

. . . an integrated management approach



**2009-2011 Energy Efficiency Programs
Sustainable Communities
Program Implementation Plan**

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

**2009-2011 Energy Efficiency Programs
Sustainable Communities
Program Implementation Plan**

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers

- Program cycles are too short for stakeholders with long-term planning and development horizons. 3-year program cycles ignore market conditions and long project lead-times.

Master-planned communities typically have twenty year planning horizons which is much longer than typical IOU program timelines. For example, RMV’s Ranch Plan went through a decade of science-based planning, and processing; development of the first planning area (PA1) will commence once the market recovers, hopefully by 2010 (www.TheRanchPlan.com). Another example is Otay Ranch, a large master planned community in Chula Vista went through a ten-year planning process, opened in 1999, and ten years later still is no where near completion despite being San Diego County’s top selling planned community. (<http://otayranch.com/about/aboutIndex.shtml>). This program resolves this by proposing a sufficient timeline that allows for full program integration into the development plan.

- IOUs and non-governmental organizations lack the coordinated efforts that are needed to accomplish the goals. Disincentives exist at the CPUC, CEC, and IOUs that delay and inhibit effective and persistent market transformation:
 - Incentives availability is unpredictable for long-term stakeholders, and they are unable to utilize or secure them for projects.
 - Current organizational ‘silos’ at IOUs and CPUC associated with various rulings make it impractical to do an integrated and comprehensive sustainable communities program. This creates missed opportunities for EE and DR savings up and down the energy supply and demand chains.
 - Utility customers are seeking integrated solutions addressing their entire energy infrastructure needs from smart appliances, smart meters, smart

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Sustainable Communities
Program Implementation Plan**

grid functionality including vehicle-to-grid capability, to promoting grid-enabled renewables. Existing program structures prevent appropriate creation and delivery of an integrated market solution.

d) Quantitative Program Targets

Table 5

Sustainable Communities Case Studies Program	Program Target by 2009	Program Target by 2010	Program Target by 2011
Savings By Design	All Commercial Projects at 10% better than Title 24	All Commercial Projects at 15% better than Title 24	All Commercial Projects at 20% better than Title 24
California Advanced Home Program	All Residential Projects at 35% better than Title 24	All Residential Projects at 35% better than Title 24	All Residential Projects at 35% better than Title 24
Zero Net Energy Home	15% of new residential to be zero net	20% of new residential to be zero net	25% of new residential to be zero net

e) Advancing Strategic Plan goals and objectives

SDG&E’s Sustainable Communities (SC) program supports the Statewide Strategic Plan, and promoting a sustainable future for Southern California. By addressing environment concerns and energy and resource efficiency, the program seeks to support the residential 2020 goals of zero net energy in new construction. Coupled with the focus on sustainable design and green building practices, the program is uniquely positioned to influence the design and construction of sustainable communities in its broadest definition. Consistent with The California Long Term Energy Efficient Strategic Plan, Residential New Construction will reach “zero net energy” (ZNE) performance for all new single and multi family homes by 2020, and commercial new construction will increasingly embrace zero net energy performance (including clean, on site distributed generation), reaching 100% penetration of new starts in 2030. Near term, by 2011, 50% of new homes will surpass 2005 Title 24 energy efficiency standards by 35%; 10% will surpass 2005 Title 24 standards by 55%..

6) Program Implementation

a. Statewide IOU Coordination

The lessons learned with the Sustainable Communities program will become a greater resource in helping plan the energy efficiency programs across IOU’s to move new construction markets towards their zero net energy targets established in the Statewide Strategic Plan. By developing innovative training programs for builders, their trades and jurisdictions, those could be successfully integrated into the WE&T

2009-2011 Energy Efficiency Programs Sustainable Communities Program Implementation Plan

programs of the IOU's. In working with the developers on very aggressive energy efficiency targets, both residential and commercial new construction projects will be held up as models providing the roadmap in incorporating very high EE levels in various projects across IOU territories.

b. Program delivery and coordination

i. Emerging Technologies program

Coordination of Sustainable Communities Case Study Program with the Codes and Standards and Emerging Technologies activities will be realized through the Program Management Team meeting regularly to discuss program integration and implementation issues. The ZNEH and SBD Sub Programs are expected to interact extensively with the ET Program to ensure new and emerging technologies are showcased and / or piloted through ZNEH case study projects.

ii. Codes and Standards program

Close coordination with the statewide Codes and Standards team is essential for tracking and implementing changes initiated by the Title 24 standards. The Sustainable Communities Case Study goals are closely tied to Title 24 standards, and it is imperative to implement changes to the program on an as-needed basis. New Construction, Codes and Standards and Emerging Technologies activities will be coordinated through the Program Management Team as well as the Community Developer's.

iii. WE&T efforts

The workforce education and training needs for The Sustainable Communities Case Study are unique. The WE&T curriculum needs to be crafted around actual market conditions and knowledge gaps at the local government level along with builders and trade associations. SDGE will work with RMV's development team to help inform the CAHP and SBD program staff will coordinate with the WE&T program management team to ensure its training and education needs are met.

iv. Non-IOU Programs

The Program will remain engaged with CEC, DOE, MWD and other government agencies responsible for various aspects of New Construction in California.

v. CEC work on PIER

The ZNEH Sub Program will interact extensively with the ET Program to ensure new technologies are absorbed quickly into the case study projects.

vi. CEC work on codes and standards

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vii. Non-utility market initiatives

California utilities have established relationships with a number of other groups in the building industry. The New Construction Program will continue to seek out and coordinate synergies with, but not limited to, the following groups:

c. Best Practices

Research

To ensure that the *Sustainable Communities* program produces the greatest benefit, investigating and learning from other sustainable development efforts is extremely important. This includes investigating market, technology, and behavioral intelligence from existing master-planned communities and discovering any gaps in education, training, design assistance which improved program development can fill. Sharing lessons-learned helps overcome significant market barriers, eliminate lost opportunities, and achieves long-term returns.

Collaboration

By working directly with the Community Developer, integration across community energy end-uses such as buildings, transportation, water, and generation can be achieved. This allows 100% participation by the community and encourages the developer to be innovative and aggressive in setting energy efficiency and renewable energy goals.

In addition, working through the Community Developer will enable the IOU to influence multiple types of consultants (architects, landscape architects, urban designers, transportation engineers, mechanical and electrical engineers), trades (mechanical, electrical, plumbing, roofing, and renewable installers) and supply chain partners such as manufacturers as well as local governments.

Integration

Taking a holistic, integrated approach to the upfront horizontal infrastructure planning opens the way to realize system-wide savings resulting in not only peak demand reduction but down-stream savings as well.

d. Innovation

Sustainable Communities will be SDG&E's flagship program providing the path for all other programs to meet California's long-term energy-efficiency goals, including net-zero energy homes by 2020.

SC enables enhanced market transformation resulting in measurable energy efficiency, integrated demand response, distributed generation, renewables and natural resource savings while optimizing long-term ecological, social and economic health of California. It accomplishes this by comprehensively integrating the 'vertical' development (buildings and their components) with the 'horizontal' development (land and utility and transportation infrastructure) over the full planning

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horizon. This holistic approach to program design and implementation is coupled with a new management model and evolutionary improvements in energy, water and air quality savings over the project life.

Master-planned communities typically have twenty-year planning horizons which is why weaving the vertical program elements with horizontal elements are so critical to its success. This program is unique in its breath and the level of integration to achieve long-term savings for: electricity, natural gas, water, wastewater, carbon emissions, and greenhouse gases.

Sustainable Communities recognizes that master-planned community developments provide a 'proving ground' for interrelated pilot program offerings. This program will help SDG&E and the CPUC to better understand barriers and opportunities with different stakeholders as part of a pilot/program rather than from numerous disjointed efforts. In addition to establishing SDG&E as a leader in promoting sustainable development, SC provides the CPUC the opportunity to establish their leadership and overall policy guidance in support of these innovative programs.

The process for developing sustainable, livable land-use practices and building design is creative, technical and, participatory. The basic principles of sustainable development merge similar objectives to protect and restore the natural environment while providing nurturing, high-quality communities for people to work and live in.

The common fundamental characteristic throughout the program is its focus on performance approaches rather than prescriptive approaches to fully integrate building systems with infrastructure enabling SDG&E into California's Smart Grid. The Smart Grid concept overlaps various functions such as smart meters, smart appliances, demand response, self generation, highly efficient PV systems and transportation.

e. Integrated/coordinated Demand Side Management

Fundamental to SC's innovative design is it fully embraces an IDSMD methodology by closely 'knitting' EE, DR, DG and renewables across development components. Its very nature speaks to integration to form synergistic impacts that are typically unattainable through EE business as usual.

At a minimum, all marketing materials will be developed to support energy-efficient design process in helping cross promote demand response to educate customers on the availability of IOU DR programs/Smart Meters etc. Additional work will take place during the three-year program cycle to evaluate closer linkages between EE and DR via Program Managers and success with this concept with various case study projects. Additionally, this feedback mechanism establishes a means to facilitate technology approaches that enable SC to crosscut organizational silos in achieving its strategic vision.

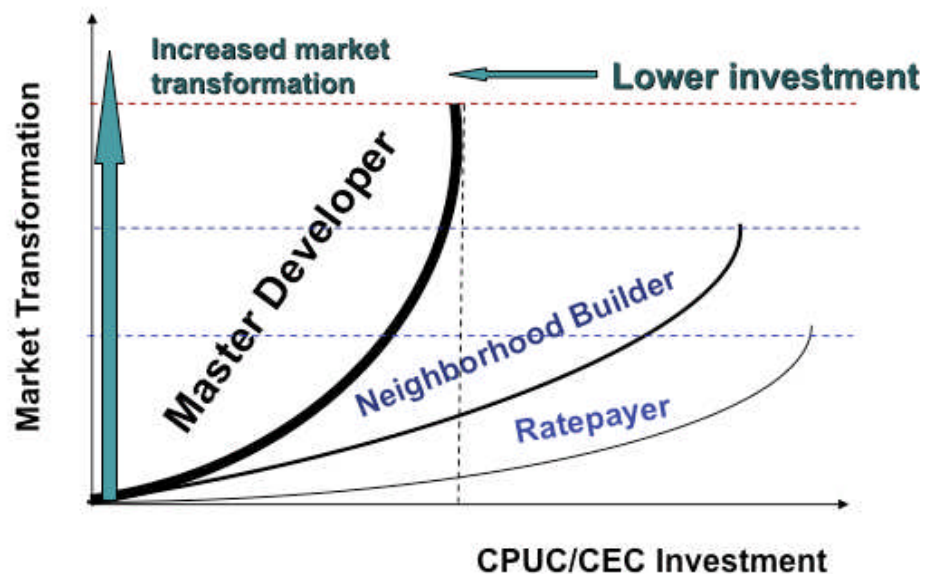
f. Integration across resource types (energy, water, air quality, etc)

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SC is a comprehensive program with a cross-cutting focus on energy-design, green building practices, and increased utilization of renewable resources. Infrastructure, transportation planning, energy, water, materials, and waste are all addressed in the program rather than as separate elements. This provides the opportunity for exponential energy- and resource-savings throughout the community – giving SDG&E and developers the ability to shift to cleaner forms of energy to power our communities. The key difference is that SC approaches the market with the Master Developer as its focus. Rather than address market barriers at the tail end of the market cycle, SC deals with barriers earlier in the development process thereby enhancing and improving its leverage to create substantially greater impacts as displayed in the table below.

Integrated Community-Based Solutions

... yield exponential benefits for multiple stakeholders ...



The main elements addressed by the participating projects will be structured around three key concepts – Environment, Resources, and Energy – with a detailed focus to the following principles:

- Sustainable site design
- Energy efficiency
- Advanced renewables integration
- Pollution reduction
- Water efficiency
- Indoor air quality
- Resource preservation
- Smart Grid
- Integrating local Governments

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- Transportation.
- Smart Land-Use Options (ex: mixed housing, walk-ability / bike-ability)

These energy- and land-use practices, sensitive to both the human community and natural environment, will be achieved through the *Sustainable Communities Case Studies* program and will allow the utility to initiate a collaborative partnership with the design community, developers, builders and related industries.

g. Pilots

Rancho Mission Viejo

To support the *Case Study* program concept and to integrate it into the *Sustainable Communities* program, SDG&E proposes a separate *Sustainable Communities Case Studies* program that focuses on the Ranch Plan being developed by the Rancho Mission Viejo Company (“RMV”).

This South Orange County project comprises 23,000 acres with 75% preserved as open space. There will be six villages developed over a twenty-year timeframe consisting of 14,000 units with 5,200,000 square feet of commercial construction including schools and a hospital.

The project is being developed with sustainability as its guiding principle and addresses:

- Interdependence of humanity and nature
- Intergenerational stewardship
- Optimized value
- Design with natural systems
- Conservation of natural resources
- High-performance design technologies
- Resource-efficient healthy materials
- Elimination of waste
- Multi-modal transportation
- Innovation, education, and ongoing evolution

The project will also address quantitative environmental metrics of:

- Energy use
- Air pollution
- Greenhouse gases
- Water use
- Storm water and runoff

The tools developed, results achieved and lessons learned from the RMV pilot have direct application Statewide and will be shared to further advance sustainable development elsewhere in California. This provides a much-needed proving ground

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serving to enrich sustainable community development at a cost-effective level unattainable through traditional approaches.

Project Opportunities

Utilizing the Ranch Plan as a case study will provide both short- and long-term opportunities for energy savings and other benefits in a cost-effective environment. It will also provide a comprehensive mix of energy-efficient market potential for multiple residential, commercial, and retail sectors. It will provide a model to successfully implement the programmatic initiatives found in the Strategic Plan.

Working through the community developer will enable the IOU to influence multiple types of consultants (architects, landscape architects, urban designers, transportation engineers, and mechanical and electrical engineers), trades (mechanical, electrical, plumbing, roofing, and renewable installers), and supply chain partners such as manufacturers as well as local governments.

Planning Area 1 (PA1), the first phase of this 4-phase development, has been targeted by this case study to initiate an analysis of the increased focus on sustainable building design that can be achieved through early intervention in the design process.

Project Funding

The Sustainable Communities Model developed by CTG Energetics, Inc. and the RMV Sustainability Team, is the core controlling element in the analysis of the Ranch Plan. Funding for the development and maintenance of the Sustainable Communities Model is needed to support the case study and evaluate the energy and environmental impacts, and sustainable design decision making for both PA1 and the broader Ranch Plan. This Sustainable Communities Model is the core controlling element in the analysis of the Ranch Plan. The Sustainable Communities Model® (SCM) quantifies total environmental impacts (including energy use, water use, greenhouse gas emissions, air pollution emissions, stormwater, transportation impacts, solid waste, and other factors) allowing communities to optimize planning and design decisions that result in the greatest environmental benefit for the least cost. The SCM takes a quantitative, systems-based approach towards sustainability. This enables a project's design team to "connect" each specialty's detailed analyses together to explore and optimize environmental impacts that cross disciplinary boundaries. The landscape architect can explore the impacts that various planting palettes has on building energy use (shading, microclimate modification, evaporative cooling), water consumption, carbon sequestration and embodied environmental impacts such as the amount of embodied energy/carbon in water. The SCM is scalable over a wide range of community sizes, and can be applied to "communities" ranging from municipalities, to large master planned developments/re-developments, to academic and corporate campuses, down to individual buildings.

Funding for the development and maintenance of the Sustainable Communities Model is needed to support the case study and evaluate the energy and environmental impacts, and sustainable design decision making for both PA1 and the broader Ranch

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Plan. The funds are anticipated to support five key areas of the Sustainable Communities Model:

1. Conversion of the current SCM version 1 to version 2 for PA1
2. Implementation of the entire Ranch Plan in SCM version 2 to facilitate investigation beyond PA1
3. Support of on-going plan design changes (densities, unit types, etc)
4. Development and refinement of peer review and referencing methodologies to support the environmental benefit calculations
5. Development of new calculations and modules needed to support specific decision points at the Ranch (e.g. large scale photovoltaic, cogeneration, district heating and cooling, etc.)

Additional funding will be required to cover:

- An on-site HERS-certified inspector during the build-out of PA1. This inspector will perform the required tests and inspections and will ensure consistency and quality in the Planning Area 1 homes.
- Full-time, on-site technical support for 3rd party inspections and tests of building to ensure quality, program compliance, energy savings, and measurement and verification.
- Sales training

The Green Energy Systems (GES) program (see Statewide New Construction PIP, Savings By Design for an example) will explore the potential for utility ownership of major energy efficiency equipment to facilitate the installation of the highest efficiency HVAC systems in commercial buildings. The program recognizes that building owner financing is constrained and without utility ownership, the system design will not maximize energy savings. The objective of GES is to capture energy efficiency opportunities that would otherwise be lost for the 20 to 30 year life of the HVAC equipment. This pilot will build on the success of the Sustainable Communities program that incorporates utility ownership of clean energy generation systems on customer facilities.

Under GES, SCP will seek to identify projects with the following characteristics:

- The project is of sufficient size to warrant the effort (>\$2,000,000 investment)
- The building is intended to be owner occupied or owner managed
- The HVAC system is a central plant configuration

If an appropriate project is identified, with an owner willing to enter into a contractual agreement with the utility to own and operate the building's HVAC central plant, then the utility will file an advice letter for approval of incremental capital and maintenance costs and will demonstrate that the project meets the following criteria:

- The project is cost effective as a stand-alone energy-efficiency project and delivers incremental energy savings beyond what the building owner would otherwise have installed
- The capital requirement is between \$2,000,000 and \$20,000,000

2009-2011 Energy Efficiency Programs Sustainable Communities Program Implementation Plan

If approved, the utility will sub-contract out the design, construction, and operation of the facility but will serve as project manager to ensure it's constructed and operated at the design efficiency levels.

Energy-Efficiency Funding

Because The Ranch Plan is served by both utilities of Sempra Energy, SDG&E and the Southern California Gas Company will jointly share energy efficiency funding for the project:

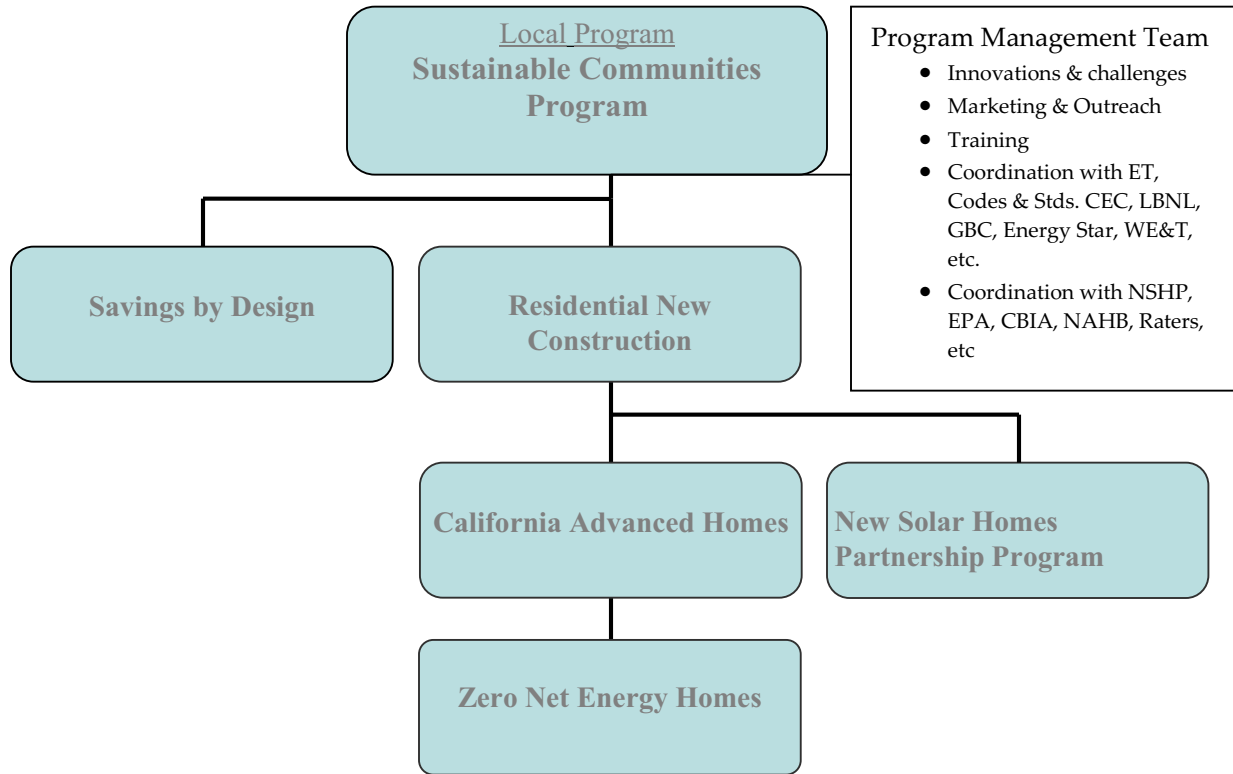
- Funding for the energy efficiency component of the Ranch Plan PA1 will be through the residential and commercial new construction programs incentives for building performance.
- Photovoltaic installation funding for new residential construction will be through the New Solar Homes Partnership Program.
- Photovoltaic installation funding for new commercial construction will be through the California Solar Initiative.
- Additional funding may originate from the utilities' emerging technology, demand response, and self-generation programs.
- Other funding sources will support water, clean-air transportation and infrastructure elements of the Sustainable Communities Program to incorporate the key horizontal components with the vertical components to achieve a fully realized sustainable development.
- RMV is also actively pursuing other additional funding sources, such as foundation grants to support the fully integrated Ranch Plan.

h. EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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7) Diagram of Program



- Savings By Design: Neighborhood Retail, Business Park, and Offices, Fire/Police Stations, Churches and Civic.
- California Advanced Homes: Single family detached, single family attached, multi-family apartments and Assisted Living Community.
- New Solar Homes Partnership Program: Single family detached, single family attached, multi-family apartments.
- Zero Net Energy Homes: Single family detached, single family attached, multi-family apartments.

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Figure 2: Sustainable Communities Program Linkages

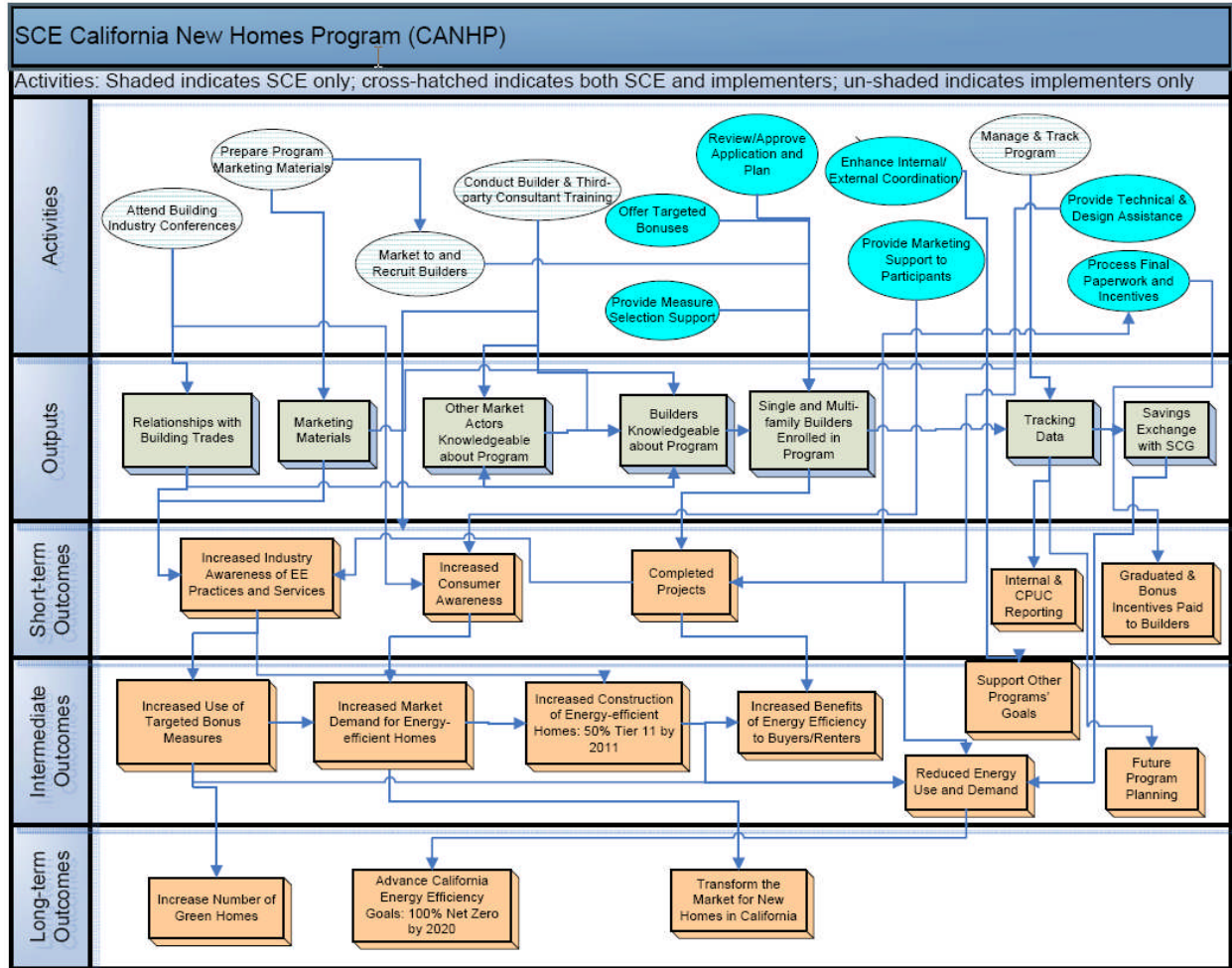


Master Developer	
OPPORTUNITIES	CHALLENGES
Integrated community-based approach	Funding format and prescriptive incentives not conducive
Reduce energy consumption and increase renewables	Added costs viewed as too high vs. return
Influence multiple stakeholders	Current incentive programming focused only on homeowner and builder
Implement research and pilot programs	Master Developer not included in existing incentive structure
Stimulate market transformation	Funding cycles too short for Master Developer timeframes

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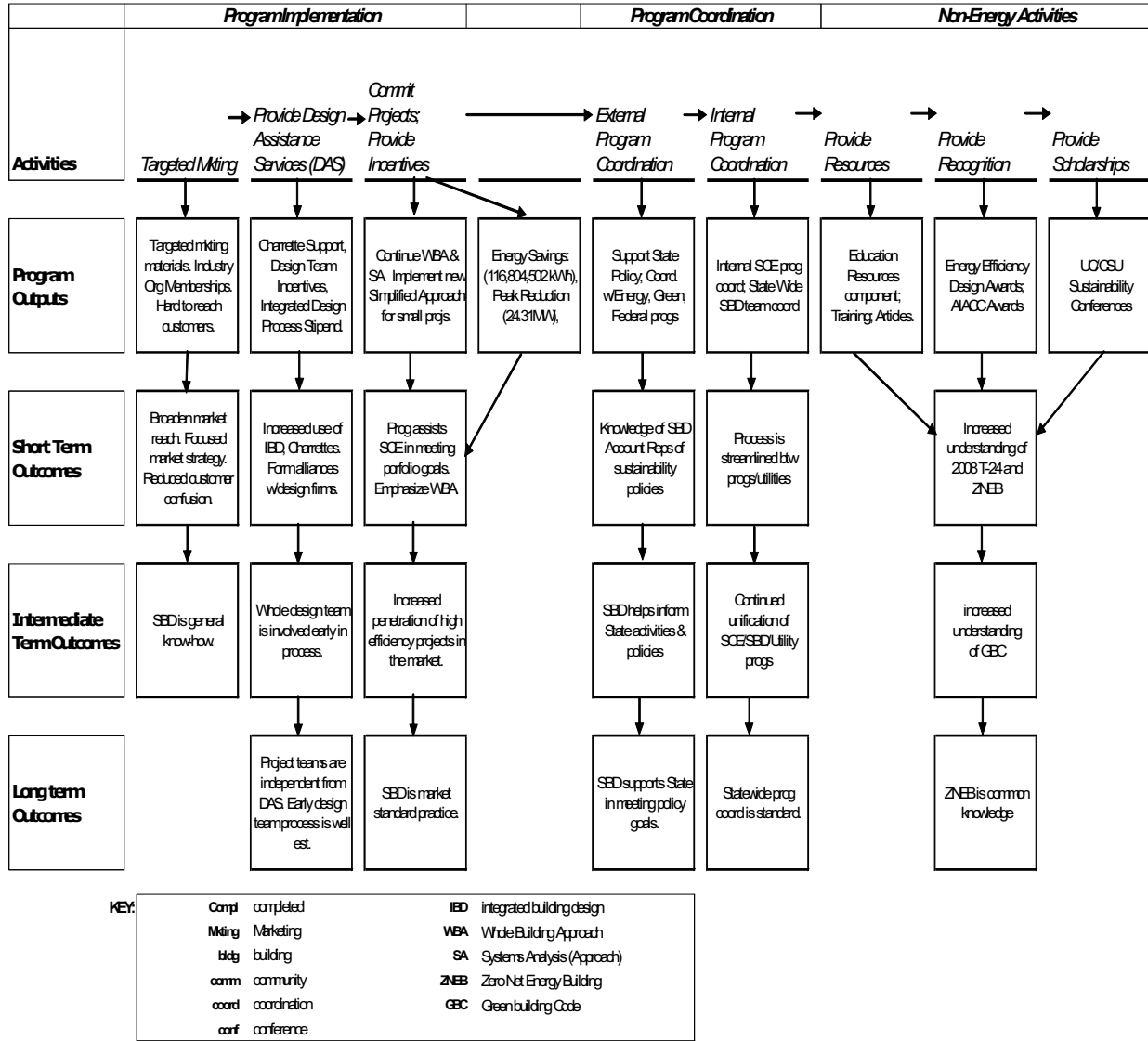
8) Program Logic Model

CAHP Logic Model



2009-2011 Energy Efficiency Programs Sustainable Communities Program Implementation Plan

Savings by Design DRAFT 2009-2011 Logic Model



Third Party

Programs

**2009-2011 Energy Efficiency Programs
20% Cooler
Program Implementation Plan**

- 1) Program Name: 20% Cooler
 Program ID Number: TBD
 Program type: Third-Party Program

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Residential					
	3P-Xc02 - Time Delay 20% Cooler	201,618	171,674	0	0	373,292
	TOTAL:	\$ 201,618	\$ 171,674	\$ -	\$ -	\$ 373,292

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Residential			
	3P-Xc02 - Time Delay 20% Cooler			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs
20% Cooler
Program Implementation Plan

a) Describe program

In California there is wasted cooling capacity sent “down the drain” as condensate from the air conditioner evaporator coil. The 20% Cooler Program provides incentives for the installation of the enhanced time delay (ETD) on residential and commercial air conditioners. The ETD improves energy efficiency by harvesting the 20% to 30% cooling capacity that would otherwise be lost. The ETD runs the fan at the end of the compressor cycle – evaporatively cooling the air returning to the building.

The measure is the installation of a control device that runs the inside Air Conditioner (AC) fans after the compressor is off. The fan run time increases as the compressor run time increases. The compressor run time is an indicator of how much water is on the AC evaporator coil.

The 20% Cooler Program delivery will be simple to ensure its effectiveness. Remaining simple, it will capture all the data necessary to determine energy savings and peak reductions. The Program will address the contractors’ distain for paperwork, delays in payment, and complications. The Contractor’s call center will be the delivery method. With this method, the appropriate data are recorded in the central electronic database in real time with real-time checks and verification.

The Program begins with recruiting contractors and distributors to participate in the initial marketing workshop. After that workshop contractors will be enrolled in the Program and individualized hands-on training scheduled for technicians and salespersons. Materials for point-of-sale and broader marketing will be supplied to the contractors. Simultaneously, program announcements will be sent to local media and additional contractor introduction meetings scheduled. The technicians will begin installing the ETD with an instantaneous customer rebate and will report the installation directly to the Contractor. The marketing program will be evaluated for its effectiveness on an ongoing basis and improvements made when indicated. Each customer will obtain a mailing describing the benefits of the Program, the benefits of other available Demand-Side Management (DSM) opportunities, and a customer satisfaction survey. The results of the Program will be tracked as units installed, energy saved, and peak reductions.

b) List measures

Standard (fixed time) time delay relays either run the fan for too little time, missing some of the savings opportunities, or too long causing the air going through the ducts to pick up too much heat from the attic. The Patent Pending Enhanced (variable time period) TDR addresses these issues.

The ETD improves the efficiency of air conditioners by delivering additional sensible cooling (temperature reductions) for very little additional kWh.

**2009-2011 Energy Efficiency Programs
20% Cooler
Program Implementation Plan**

c) List non-incentive customer services

The Program includes communication with the customers to inform them of other Demand Side Management (DSM) options available in the Company's website.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

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b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

The market has failed to produce an air conditioner that is optimized to the predominant climate conditions that exist in California. This is a result of the lack of demand, which is due to the lack of knowledge about the possibilities of climate specific higher efficiency by the customer, the contractors, and the utility customer financed marketing structure. Until recently there were two additional market barriers to optimized performance: a lack of a specification for a Hot Dry Air Conditioner, and the lack of a low cost method of optimizing the performance of air conditioners (both new and existing) for hot dry climates.

Commercially available air conditioners are designed and marketed to meet national performance standards that are roughly based on “average” cooling season weather conditions across the United States. In dry climates the indoor conditions are too dry to need dehumidification. The nationally focused design and marketing gives no attention to the performance of the air conditioners at higher temperatures or where dehumidification is not necessary (as in California, Nevada, and Arizona).

This Program will overcome the problem of no equipment optimized to California conditions by offering, for the first time, retrofits capable of harvesting the excess dehumidification of the air conditioner as temperature reducing cooling.

This Program will overcome the lack of customer knowledge with marketing that will address the customers felt needs, which will be reinforced at multiple levels, and will involve the primary sales people in this domain – the local Heating, Ventilating, and Air Conditioning (HVAC) contractors. The lack of contractor knowledge will be addressed by education through program-sponsored seminars and through program mailings. The program will work to influence the utility customer financed statewide marketing through personal meeting and by providing information to the statewide marketing organization.

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The Program addresses the previous barrier of no low cost method of optimizing for hot dry climates by introducing the Enhanced Time Delay in two forms: as an add on fan relay and as a high performance motor programmed with the ETD. The Contractor in the California Energy Commission Public Interest Energy Research (CEC PIER) Hot Dry Air Conditioner project addressed the specification barrier.

Running the fan at the end of the compressor cycle improves the efficiency of air conditioners in California climates. This opportunity is available because there has previously been no attempt to provide air conditioners optimized to California climate. When air conditioners are optimized to the Seasonal Energy Efficiency Ratio (SEER) cycling test, a short fan run time is chosen for the singular conditions of the test. Recent research into Hot Dry Climate Air Conditioners has produced both a specification and shown that a longer, variable time delay is optimum for the variety of condenser run times and conditions found in the field. The Enhanced (variable time period) TD installed in this Program delivers additional sensible cooling (temperature reductions) using only the lower watt draw of the fan. More energy efficiency could be achieved through the implementation of this program to reflect 20% to 30% cooling capacity that would otherwise be lost,

The market for the 20% Cooler Program includes residential customers in San Diego Gas & Electric (SDG&E) in Climate Zones 8, 10, 14, and 15. The program can be delivered to Mobile Homes, Single Family Homes, and Multi-Family Homes. The market also includes all small commercial buildings in the Company service territory that have unitary air conditioners and are not using a continuous fan.

d) Quantitative Program Targets

The Program will install 14,200 ETDs by the end of 2011 as outlined in Table 5.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target for number of ETDs	TBD	TBD	14,200 (total)
Target for Customer Incentives	\$ 165,000	\$ 275,000	\$ 341,440

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan Goals and Objectives

The 20% Cooler Program supports the Strategic Plan's emphasis on market transformation:

- It utilizes local HVAC contractors who are resident in the area and will continue to serve local customers with energy efficient services in the future.

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- It provides information and education to customers about their air conditioners, the opportunities for improved energy efficiency, and the baseline efficiency of current air conditioners
- It provides education, training, and technical assistance to HVAC technicians and contractors on marketing energy efficiency measures, on competent installation, and on the opportunities in “green jobs”.

In particular, this Program contributes to the following specific strategies:

- By improving the performance of the existing air conditioning, this program enhances the objective of reaching to Zero Net Energy homes. (2. Residential Sector, Strategies 1.1, 2.1, 2.3, and 3.1)
- By improving air conditioning for small commercial customers, this program enhances the objective of reaching to Zero Net Energy work places. (3. Commercial Sector, Strategy 2.6)
- The new HVAC control technology and promotes quality installation. (6. Heating, Ventilation and Air Conditioning, Strategies 2.3, 3.1, and 4.3)
- Training is provided to technicians, contractors, and salespeople in the technical and in the marketing aspects of the project. (9. Workforce Education and Training, Strategy 1.3)
- Bring together distributors, industry groups, contractors, and customers in a workshop led by marketing experts in the fields of social marketing and HVAC marketing. (10. Marketing, Education, and Outreach, Strategy 1.3)
- Relying on advanced control technologies (Enhanced Time Delay). (11. Research and Technology, Strategies 1.4, 2.1, 2.2, 2.3, and 2.4)

The 20% Cooler Program is a direct implementation of the Big Bold energy efficiency strategy of transforming HVAC to ensure energy efficiency optimal for California climate. The measure retrofits existing air conditioners to perform as needed in the dry California climate.

6) Program Implementation

a) Statewide IOU Coordination

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party program only operates within SDG&E’s service area. The Program is designed to support and complement SDG&E’s core program activities. If this Program shares common elements with the IOU’s core programs, other third-party programs, or

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programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b) Program Delivery Mechanisms

i. Emerging Technologies program
Not applicable to this program.

ii. Codes and Standards program
Not applicable to this program.

iii. WE&T efforts
Not applicable to this program.

iv. Program-specific marketing and outreach efforts

The market for this program consists of residential customers in Company in Climate Zones 8, 10, 14, and 15. It can be delivered to Mobile Homes, Single Family Homes, and Multi-Family Homes. The market also includes all small commercial buildings in the Company service territory that have unitary air conditioners and are not using a continuous fan. A total of \$224,000 is allocated to marketing and outreach efforts for this Program.

The marketing will include events at the distributors, home shows, point-of-sale pieces, press releases, contractor breakfasts and follow up mailings to each customer – all to support the contractors in selling this measure. These items develop out of an all-parties workshop at the initiation of the Program.

The Contractor will bring together the actors (distributors, industry groups, contractors, customers, etc.) in a workshop led by marketing experts in the fields of behavioral economics, social marketing and HVAC marketing. It will take a confluence of these concepts to successfully build to the volumes intended in the 20% Cooler Program. This workshop is an application of the best marketing development actions – utilization of all available resources to develop a design that is implemented, evaluated, and improved throughout its application.

The developed design will result in a strategy statement that will underpin and guide all messaging and communications. Among its many elements are:

- Recognition that the target is the customer, not the contractor, program implementer, or utility; the parties need to know the customers' attitudes, beliefs, feelings, experiences, needs, values, and behavior.
- Specificity in what is desired of the customer; the parties need to know what changes are desired and the reasons for the customer's current behavior.
- Recognition that there are many potential targets; the parties need to concentrate on targets that are accessible and can be motivated into action.
- Concentration on the benefits of the action rather than the attributes of the product.

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- Identification of the aspects of program participation that meet the customers' needs and wants.
- Concentration on rewards in the present rather than the future; the parties need to recognize that the rewards are subjective and personal.
- Recognition that customer will take actions for their reasons and those reasons may be contrary to those of the contractors.

A key strategy in this Program is to involve the HVAC contractors, distributors, and trade organizations in concert with marketing experts. The Contractor or Contractor's Representatives will train local technicians, contractors, and salespeople in the technical and in the marketing aspects of the project.

Marketing experts will be responsible for guiding the planning process and setting up the on-going evaluation of the marketing steps. It is fundamental to the plan that the parties do not assume that the marketing efforts will be successful in producing the desired results. Each marketing item will be developed with a clear connection to the implementation of this measure. Each item will be tested for effectiveness before it is used extensively.

The local HVAC contractors are the only successful avenues of delivery HVAC upgrades and services that fit within the concept of market transformation. These contractors are fixtures in their communities and will continue there long after energy efficiency programs are a memory. These contractors have a long list of eligible customers (every AC customer they have dealt with over the last 5 years). Some of these contractors are very interested in growing their businesses. This measure gives these contractors new highly valuable and noticeable hardware to attract new customers. The local HVAC contractors have knowledge of HVAC systems and controls, knowledge of the local consumer – both residential and commercial and the ability to respond to any customer issues.

Once installed, the customers will notice the difference in their system's performance (the fan running at the end of the cycle bringing extra cooling into the building). This makes the measure concrete in the customer's mind and helps the HVAC contractor leverage additional sales. The Program establishes both immediate and longer-term education channels with the customer. The installing technician provides every customer with a write up explaining the ETD, how it will change the performance of their air conditioner, and a toll free number to contact the Contractor with any questions, comments, or complaints. This is followed up with a mailing to the customer within one week. This mailing reinforces the information supplied by the technician and provides a postage paid customer satisfaction card for the customer as well as a repeat of the toll free number.

v. Non-energy activities of program
Not applicable to this program.

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vi. Non-IOU programs

With the current economic situation, many HVAC contractors are finding their traditional markets shrinking. Customers are less likely to buy new equipment even when there is a problem such as a compressor failure. They are finding that discretionary replacements and upgrades are becoming rare. This measure, because of its low price and improved efficiency, provides an opportunity to maintain some level of business during the downturn.

Two significant market forces are the push for higher efficiency and contractors' need to distinguish themselves from their competition. This new measure is a way of utilizing both of these forces.

vii. CEC work on PIER

Not applicable to this program.

viii. CEC work on codes and standards

Not applicable to this program.

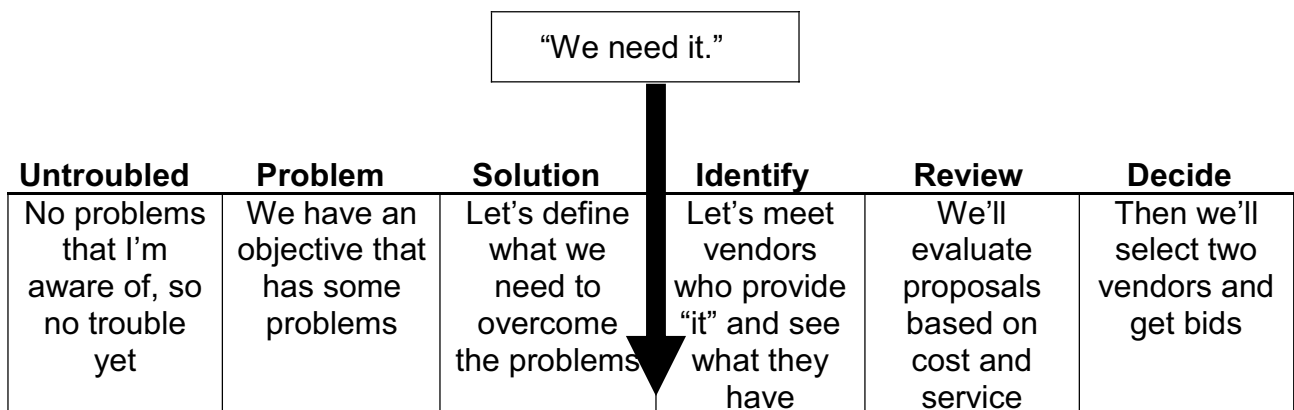
ix. Non-utility market initiatives

Not applicable to this program.

c) Best Practices

Program Design: Local HVAC contractors will be relied upon for a number of reasons. These include: knowledge of HVAC systems and controls, knowledge of the local consumer – both residential and commercial, databases of current customers, interest in the local community, the ability to respond to any customer issues, and last of all – because it is the only method that truly provides market transformation which is important to long term success.

Marketing Strategies: Over the recent past, professional marketing has identified a range of marketing and sales strategies that are based on where the potential customer is on the buying cycle continuum from “Untroubled” to “Decide” as illustrated in the graphic below.



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With a new measure, the customer begins toward the left of this buying continuum. The customer is not aware of the product, let alone deciding they “need it”. The appropriate messaging is interactive, finding out what the customers want to accomplish, identifying needs, and linking the distinctive capability of the product (Enhanced Time Delay) to their need.

This Program starts with a fresh slate and builds a marketing program for this project using the best of available methods – the methods identified in the “Best Practices” document, *National Energy Efficiency Best Practices Study, Vol. 01 – Crosscutting – Advertising Best practices Report*, Dec. 2004 by Megdal & Associates with Quantum Consulting as summarized below:

Summary List of Best Practices for Advertising Programs

Program Theory and Design

- Conduct sufficient upfront market research
- Develop a program theory and logic model
- Map and apply the theory of change to message design, segmentation and media planning
- Utilize a structured and comprehensive market feedback system
- Pre-test as a normal practice

Program Management: Project Management

- Build and utilize a strong cross-functional and cross-organizational team that includes advertising specialists
- Utilize a social marketing expert and an expert on the targeted energy efficiency issues on the team
- Balance the empowerment of the distinct roles and specialists against the need for integration and teamwork

Program Management: Reporting and Tracking

- Use standard advertising industry measurements as one tool in the reporting, quality control, and evaluation processes
- Track these measurements for media plan assessment and for comparison against other outcome and effects measurements

Program Management: Quality Control and Verification

- Ensure quality control is part of the comprehensive market feedback system
- Obtain post-buy reports and evaluate post-buy analysis
- Follow through on any discrepancies uncovered in post-buy analysis

Program Implementation: Marketing and Outreach

- Use a broad array of marketing tactics and strategies
- Develop a strong media plan to ensure that the appropriate message reaches the target audience at the best time and in the best manner to motivate desired changes
- Utilize ad development best practices from the marketing industry
- Use market segmentation to identify the appropriate target markets and messages
- Create and select the ad according to its ability to communicate the intended message, be recognized and remembered, and stimulate key behavior changes.

The marketing approach will also use some of the concepts in the report: *Applying Psychology to Economic Policy Design* by Robert Letzler, Center for the Study of Energy Markets, December 2006, including:

- Addressing “Narrow Bracketing” where consumers base their decision on short-term outcomes.
- Reference dependence and reference dependent loss averse customers who consider implementation against an anticipated loss. This is applicable to customers who fear future increases in utility costs.

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- Studies of choice under risk often consider the worst case. This is applicable to customers who may anticipate the worst case with respect to future cost increases, potentially including time of use pricing.

Implementation Techniques: This Program is based in quality assurance and has been cited in positive “lessons learned” by evaluators (e.g. Wirtshafter Associates. 2000. “SDG&E Residential Contractor Program Evaluation”. Quakertown, PA). The process integrates several components, including recruiting contractors by personal visits, providing hands-on training for each and every technician, obtaining immediate phone verification of the installation and the critical variables in its effectiveness from the technician on site, encouraging a fully paperless system for the contractor, facilitating customer involvement through the follow-up mailing and customer satisfaction cards, providing immediately available technician support, and requiring comprehensive reporting to the sponsor. The elements of the system constantly make it into the list of best practices, including the Quantum Consulting *National Energy Efficiency Best Practices Study, Volume NR2 Non-Residential Best Practices Report* for the California Best Practices Project Advisory Committee and in both the first round and second round of American Council for an Energy-Efficient Economy (ACEEE) Exemplary programs listings.

d) Innovation

The ETD, the delivery method, and the marketing method are all innovations integrated in this project.

e) Integrated/Coordinated Demand Side Management

The Program includes a mailing to the customer that identifies other DSM options available to them.

f) Integration Across Resource Types (energy, water, air quality, etc)

Not applicable to this program.

g) Pilots

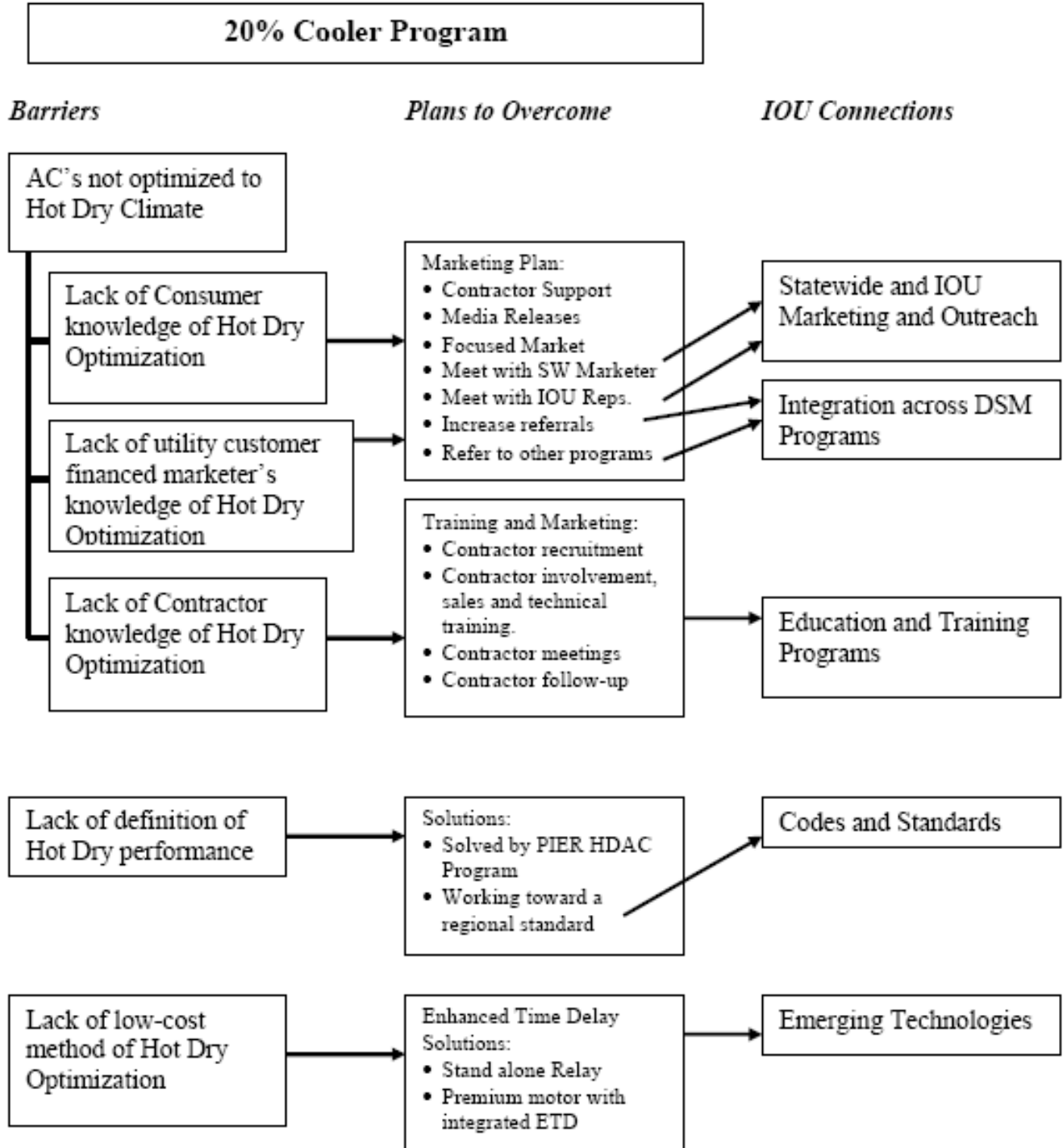
There are no pilot projects as part of this Program

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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7) Diagram of Program



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8) Program Logic Model:

The third party is an implementation channel and is included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

2009-2011 Energy Efficiency Programs Appliance Recycling Program Implementation Plan

- 1) Program Name: Appliance Recycling
 Program ID Number: TBD
 Program type: Third Party

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Residential					
	SW-ResF - Appliance Recycling					included in the Residential Energy Efficiency Program
	TOTAL:	\$ -	\$ -	\$ -	\$ -	\$ -

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table – by Calendar Year

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Residential			
	SW-ResF - Appliance Recycling	included in the Residential Energy Efficiency Program	included in the Residential Energy Efficiency Program	
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description²

a) Describe program

The Appliance Recycling Program (ARP) provides long-term coincident peak demand reduction and annual electric energy savings in the residential and nonresidential (small commercial) sectors by retiring and permanently removing operating, inefficient refrigerators, freezers and room air conditioners from service in SDG&E's service territory.

Services provided by Contractor for SDG&E's program will include:

- Design and execution of a marketing and advertising program featuring educational and promotional messages to inform consumers of the energy costs of operating inefficient refrigerators, freezers, and air conditioners; create customer awareness of the program; and generate requests for program services.
- Stringent adherence to qualification procedures to ensure that program participation is limited to eligible customers with eligible appliances.
- Maintenance of the program's current toll-free telephone number, 1-800-599-5792, and comprehensive customer service, including verifying eligibility of customers and their appliances, scheduling collection appointments, mailing appointment confirmation letters, and placing a reminder telephone call to the customer the day before the scheduled pickup, which is provided by Contractor's professional staff.
- Providing real-time interactive Internet scheduling capabilities to enable customers to access program information and schedule collection appointments.
- Extensive web-based, real-time reporting on all aspects of the program, which is available to SDG&E's program managers and staff through Internet access with their desktop computers.
- On-site program eligibility verification to ensure that the appliance is in operating (cooling) condition and meets all other program requirements.
- Safe removal of the appliance from the customer premises, disabling the unit before leaving the site to prevent re-use, and transporting the appliance to Contractor's fully permitted processing and recycling center.
- Auditing of appliances at pickup sites as they are loaded onto the truck and then again as they are processed at Contractor's facility.
- Innovative, environmentally sound appliance processing and recycling systems and methods, to remove and properly manage:
 - Hazardous components and materials, including PCB-containing capacitors.
 - CFC/HFC/HCFC refrigerants.
 - Polyurethane foam insulation.
 - Recyclable materials such as ferrous and nonferrous metals, plastics and glass.

² To be provided for overall program (explaining how sub-programs form a coherent plan) and for each sub-program.

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- Accurate and timely processing and mailing of customer incentive checks, backed by experience in processing more than 800,000 incentives for electric utility programs.
 - Ongoing quality assurance monitoring and auditing of all aspects of the operation.
 - All required insurance coverage, including pollution legal liability coverage.
- b) List measures
- c) List non-incentive customer services

5) Program Rationale and Expected Outcome³

- a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market

³ To be provided for each program and sub-program in PIP.

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effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Market Barriers

In the absence of the ARP, two major market barriers inhibit the retirement and proper recycling of older, inefficient appliances in SDG&E’s service territory:

1. Consumers lack information from other sources about the energy efficiency benefits of early retirement for old, working appliances; and
2. Consumers do not have access to services that reliably result in retirement and proper recycling.

The project services provide SDG&E’s customers with a convenient, attractive and environmentally-sound alternative for managing working, older appliances. Traditional methods of managing replaced working appliances include:

- Keeping and using the appliance as a spare;
- Using a retailer haul-away and resale service;
- Selling or giving the appliance to another electric utility customer (including relatives, neighbors or a charitable organization); and
- Leaving the appliance behind when moving.

These methods lead to the continued use of older, inefficient appliances.

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d) Program Design to Overcome Barriers

The ARP addresses the above mentioned barriers by collecting these energy-inefficient appliances, processing them to remove all environmentally harmful substances, and recycling the residual materials in compliance with all federal, state and local laws and regulations, preventing the appliances from returning to use or causing environmental damage through improper disposal.

The ARP’s \$50 financial incentive encourages customers to participate in the program rather than utilizing one of the traditional methods listed above to manage their old, operating appliance.

The ARP provides customers with a convenient, free service as an alternative to traditional methods of managing replaced working appliances. The program accelerates early retirement of replaced appliances and encourages early replacement of targeted appliance categories by providing financial incentives and coordination with other SDG&E appliance energy-efficiency programs. This is a highly cost-effective residential program with a solid track record of success that will deliver the energy savings and demand reduction proposed by Contractor.

e) Quantitative Program Targets

Table 3

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1			
Target #2			
Target #3			
Target #4			

[e.g. Target #1: 20,000 refrigerators recycled by 2011; or Partnerships with 5 of the 10 top homebuilders by 2010]

f) Advancing Strategic Plan Goals and Objectives

- Many of the removed units are secondary units that are perhaps the largest residential “Plug Load.” (2a. Residential Sector, Strategy 3)

You may also want to consider the following specifics:

- By removing inefficient appliances, which are replaced with more efficient ones, the program improves energy efficiency of homes and enhances the objective of reaching to Zero Net Energy homes. (2. Residential Sector, Strategies 1.1, 2.1, 2.3, 3.1, 3.3, and Low Income Strategy 1.1)

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- By removing inefficient appliances, which are replaced with more efficient ones, the program improves energy efficiency of small commercial facilities and enhances the objective of reaching to Zero Net Energy work places. (3. Commercial Sector, Strategies 2.6 and 2.8)
- Encourages replacement of existing HVAC with more advanced technologies. (6. Heating, Ventilation and Air Conditioning, Strategy 3.1)
- Has potential to create demand for new and more efficient technologies. (11. Research and Technology, Strategies 1.4, 2.1, 2.2, 2.3, and 2.4)
- Has the potential to improve energy efficiency in some existing buildings. (12. Local Governments, Strategy 3.2)

6) Program Implementation

a) Statewide IOU Coordination

Marketing materials

The program's advertising is backed by program elements that motivate customers to participate by making enrollment simple and convenient. Contractor will provide:

- Customer service through continuation of the program's toll-free number, 1-800-599-5792 from 7 a.m. to 8 p.m. (Pacific) Monday through Friday and 7 a.m. to 6 p.m. on Saturday.
- An interactive, real-time website that enables customers to schedule their own collection appointment and complete the order process at their convenience.
- Providing links to other websites promoting SDG&E's energy-efficiency programs.
- In-home collection and room air conditioner drop-off events to provide options for customers to turn in their operating, inefficient appliances.
- Automatic processing and payment of customer incentives, with no additional forms to complete and mail.

The program's integrated advertising plan employs a combination of print and television media, along with public relations efforts, which include:

- Bill Inserts – Promotional inserts in consumers' monthly electric and cable television bills have proven to be a very effective form of program advertising because they can be zoned by zip code. This can increase participation in specific geographic areas, where, for example, a high percentage of HTR customers reside. Bill inserts targeted to specific areas will be used to promote both in-home collection and drop-off events.
- Television – With cable television, there is the flexibility to target advertising to selected metropolitan zones in SDG&E's service territory. Cable systems also offer a greater opportunity to stage ads throughout the broadcast day, which helps create a more level intake of customer orders and increases efficiency in handling incoming calls requesting collection appointments.

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- Point-of-Sale Materials – Program literature displayed at new-appliance retailers, along with careful training of sales personnel to stress the requirement that only operating appliances are eligible for turn-in, reaches consumers at time of purchase when the financial incentive becomes an encouragement to step up to a more energy-efficient refrigerator such as an ENERGY STAR[®] unit.
- Public Relations – Well-timed press releases sent to local media with follow-up calls to answer questions and encourage coverage are also part of the public relations strategy in targeting a specific region or community.

Although types of media vary, the advertising message remains consistent. Essential elements are:

- Educating consumers on the high cost of operating an energy-inefficient refrigerator, freezer or room air conditioner.
- Promoting the energy and environmental benefits of new, energy-efficient appliances, especially ENERGY STAR[®] models.
- Highlighting the financial incentive participants will receive.
- Emphasizing the ease of participation, with appointment scheduling through the program website, placing a toll-free phone call or attending a drop-off event.
- Program will also coordinate activities with the national ENERGY STAR[®] appliance initiative by establishing a link from the program website to their website to increase consumer awareness and facilitate access to information on new ENERGY STAR[®] models.

The Contractor's marketing campaign is currently creating widespread awareness of the ARP through television and bill inserts in the greater San Diego area. The program has produced several television spots and has developed a wide range of print materials that are produced in English and Spanish. SDG&E's project manager has final approval on all advertising materials.

IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable

The SDG&E Appliance Recycling Program focuses on transforming the residential appliance market by causing an improvement in the efficiency levels of the overall inventory of refrigerators, freezers and room air conditioners within the company's service territory. As such, the program does not include any distributed generation measures and does not relate to the California Energy Commission's work on the Public Interest Energy Research (PIER) program. However, the program is a strategic intervention coordinated with other investor owned utility companies that aims to permanently remove from service older, energy-inefficient appliances that otherwise would have remained in use, either by their original owners or through entry into the second-hand appliance market.

Similar IOU and POU programs

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Since the early 1990s, California's three investor-owned utilities have offered appliance recycling programs as core elements of their residential energy efficiency portfolios. Additionally, several municipal utilities and members of joint powers agencies (e.g., Southern California Public Power Authority) offer refrigerator and freezer recycling programs. Because advertising inevitably spills over into adjacent utility territories, program saturation throughout California reduces customer confusion by providing consistency in the opportunities for residents to remove inefficient appliances from service through utility-sponsored programs. Also, in addition to lowering energy consumption within a utility's own service area, statewide coverage helps to prevent the transfer through resale or give-away of old but working units into the service territories of neighboring utilities.

b) Program Delivery Mechanisms

Non-IOU programs

The program supports several non-utility initiatives that are offered on a national basis. The first is the Responsible Appliance Disposal (RAD) program sponsored by the United States Environmental Protection Agency (EPA). This program supports the proper disposal of appliances in order to protect the ozone layer and reduce greenhouse gas emissions. As part of the RAD program, participant partners recover ozone-depleting chemicals from old refrigerators, freezers, air conditioners, and humidifiers to ensure that:

- Refrigerant is recovered and reclaimed or destroyed.
- Polyurethane foam is recovered and destroyed, or the CFC-11 blowing agent is recovered and reclaimed.
- Metals, plastic and glass are recycled.
- PCBs, mercury and used oil are recovered and properly disposed of.

As part of the program, EPA serves as a technical clearinghouse on responsible appliance disposal program development and implementation; calculates annual and cumulative program benefits in terms of ODS and GHG emission savings and equivalents and, as available, potential cost savings; and provides partner recognition for achievement, such as through press releases, brochures, articles and awards.

RAD partners include utilities, municipalities, retailers, manufacturers, universities and other interested organizations.

The program also supports the early retirement component of the United States Department of Energy's ENERGY STAR[®] appliance program. Under this initiative, consumers are encouraged to replace their older, energy-inefficient appliances with new ENERGY STAR[®] listed models. To further increase the energy savings from replacement, consumers are urged to retire their old appliances through a comprehensive and environmentally sound recycling process.

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The SDG&E ARP is a prime example of a how a local initiative can be integrated into larger regional and national efforts.

- c) Interagency Actions Toward Market Transformation
- d) Best Practices

The program design incorporates various best practice elements, including:

- Contractor experience in providing large-scale appliance collection, processing and recycling for high-volume electric utility programs, including the one sponsored by SDG&E. Contractor has provided services for SDG&E customers through the current 2006-2008 program, Statewide Residential Appliance Recycling Programs during 2002-2005, the Summer Initiative during 2000-2001, and the SBX1 5 program during 2001-2002.
- Appliance processing services to recover environmentally damaging materials for proper management, including advanced technology to:
 - Evacuate CFC/HCFC/HFC refrigerants from 10 to 20 refrigerators at one time.
 - Recover and recycle CFC-11 from polyurethane foam insulation with equipment designed and imported from Germany.
 - Drain compressor oil from three refrigerators at one time by use of a table that tips the appliances to a horizontal level for thorough oil recovery.
 - Recover CFCs entrained in compressor oil to reduce the concentration to levels low enough to allow the oil to be recycled according to California regulations.
- Web-based data management and reporting system that allows SDG&E's program manager to access real-time data about the program via a desktop computer and the Internet and extract information with customized reports.
- Interactive website to allow customers to conveniently schedule and confirm appliance pickup appointments via the Internet.

- e) Innovation
- f) Integrated/Coordinated Demand Side Management
- g) Integration Across Resource Types (energy, water, air quality, etc)
- h) Pilots
- i) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program

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implementation has begun, since plans need to be based on identified program design and implementation issues.

- 7) Diagram of Program
- 8) Program Logic Model

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- 1) Program Name: Business Energy Assessment (also known as Energy Challenger)
 Program ID Number: TBD
 Program type: Third-Party Program
- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes03 - Business Energy Assessment (BEA)	43,518	139,544	277,627	0	460,689
	TOTAL:	\$ 43,518	\$ 139,544	\$ 277,627	\$ -	\$ 460,689

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes03 - Business Energy Assessment (BEA)			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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4) Program Description

a) Describe program

The Energy Challenger Program (Program), also known as Business Energy Assessment, will build on the existing 2006-08 Energy Challenger Program with a goal to engage 2,500 new small and mid-sized businesses (20-500 kW) in a web-based energy audit/business assessment (delivered through the San Diego Gas & Electric (Company) website), and provide each business with an immediate action plan containing direct links to Company rebates and implementation services. The 2006-08 Program exceeded its target of completing on-line energy audits for 2,000 small and mid-sized businesses five months ahead of schedule.

Outreach will include innovative direct mail, e-mail and telephone contact to target businesses. The Program also includes a retention strategy to drive implementation of Company energy efficiency programs by automated follow-up and telephone implementation support. The Program has been customized for Company services and is hosted by Contractor (no Information Technology (IT) requirements for Company).

The Program will reach the difficult to access mid-market audience by automating the account/ Demand Side Management (DSM) management experience, either as a self-conducted activity or supported by telephone. The Program will provide a platform to enable businesses to identify their priority energy management needs and be directed to the most appropriate Company services/rebates for their needs.

Energy Challenger is a non-resource program and thus has no measures, but rather does provide the following services:

- Provides web based energy assessment tool (Energy Challenger) tailored to stimulate interest in Company programs, rebates and services:
 - Very high success rate (over 80% of businesses that start the assessment, finish and receive an action plan);
 - Accessed directly from Company's website;
 - Allows users to quickly assess how well they manage energy;
 - Identifies the potential scope of energy savings available;
 - Maps user needs to applicable Company's programs, rebates and services; and
 - Generates a prioritized action plan for each business within 10 minutes.
- Allows an immediate action plan with 'quick wins' and longer terms strategies for reducing energy cost. Plan identifies:
 - Cost-effective technology improvements;
 - Longer term business strategies for improving energy management practices;
 - Estimate of business savings; and
 - Links to Company services, self-help information on priority actions and third party programs.
- Benchmarks businesses to drive competitive improvement;
- Educates customers on ways to improve energy management and take advantage of Company services;
- Recruits customers through direct mail, email and over the phone marketing;

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- Follows-through driven by automated email communications and outbound phone support;
- Tracks business progress and market intelligence; and
- Includes case studies to promote successes.

Contractor will also provide password protected on-line market research reporting that enables Company to gather market intelligence to better target future services, develop targeted account management strategies and improve understanding of individual business needs.

b) List measures

Program is non-resource and as such does not provide incentives. Program does, however, provide customers with an on-line energy audit that includes identifying priority energy efficiency measures. It also provides links to applicable incentives, programs and services to support customer in implementing measures.

c) List non-incentive customer services

- Web based energy assessment (audit) tailored to stimulate interest in Company programs, rebates and services;
- Provides each participant with a prioritized action plan including ‘quick wins’ and longer terms strategies for reducing energy cost. Plan also includes links to Company services, self-help information on priority actions and third party programs;
- Benchmarks businesses to drive competitive improvement;
- Educates customers on ways to improve energy management and take advantage of Company services; and
- Follows-through driven by automated email communications and outbound phone support.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry

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sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

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b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

Experience shows that typical technical ‘audit’ tools, which attempt to measure energy usage through the counting of motors, lights and other loads are not popular with customers. They are frequently seen as time consuming and are viewed as ‘audit-processes’ rather than ‘outcome orientated processes’. The end result is that customers rarely implement the recommended solutions.

These conclusions were highlighted in the 2005 report on the current statewide non-residential audit commissioned by the 4 four California Investor Owned Utilities (IOU’s) “2003 Statewide Nonresidential Audit Program Evaluation” which identified that less than 20% of medium businesses and less than 30% of small business found the current audit ‘very influential’ on equipment adoptions (with the exception of lighting).

To address the above mentioned market failure the Program addresses the following specific needs:

- The need to provide businesses with an easy-to-use business assessment/audit solution that delivers practical outcomes for businesses and facilitates increased uptake of recommendations;
- The need to improve the market penetration and customer uptake of energy efficiency programs within small and medium Nonresidential customers. A 2001 California Report “Statewide Small/Medium Nonresidential Customer Needs and Wants Study” by Quantum/Xenergy found that “Small/Medium customers are primarily adopting no cost conservation measures such as reduced lighting levels and thermostat adjustment”. The study also highlighted that “Unfortunately, lighting retrofits are the only significant investment-type actions customers are taking”. Furthermore “Customers emphasized a need for customized information – in particular, they want better information on energy savings and audits”;
- The need to provide businesses with a detailed business-orientated improvement plan. A 2003 California Study “Statewide Small Industrial Customer Wants and Needs Study” conducted by Quantum for Pacific Gas & Electric (PG&E) identified that “Medium customers have shown themselves to be willing and able to implement

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- energy efficiency measures when provided with detailed, actionable recommendations for cost-effective process improvements”;
- The need to engage business owners and managers and provide them with a business assessment tool that addresses energy management as a business management issue. The same 2003 Study identified that in the small/medium industrial market “the owner is the most important player in selecting equipment for retrofit projects”; and
 - The need to provide a business assessment tool covering a broad range of businesses that addresses both technical and management outcomes. The traditional approach to non-residential remote energy audits has typically involved an audit focusing on energy-efficient hardware-based improvements for buildings (e.g. lights, hot water and air conditioning). There are many limitations associated with this type of audit, including:
 - A tendency to be technically focused and therefore conducted by engineers, who often have limited budget and/or influence. Energy savings projects have to be sold by the engineers to senior management who have little understanding of energy management. The frequent result is that energy savings opportunities are rarely implemented;
 - Audits are not utilized or understood by decision makers (such as the site manager or the finance manager) and therefore limited actions from the audit are implemented;
 - The focus of the audit is narrow and therefore many energy savings opportunities are missed;
 - Often, businesses that start these technically based audits find it difficult to complete the process. Some of the challenges include the requirement to enter vast amounts of technical information (e.g. size and number of motors). In this situation, the audit is paused in order to collect information, resulting in frustration and the business never finds the time to complete the effort;
 - The user cannot complete the audit within a reasonable timeframe (10 to 15 minutes);
 - Audits do not cover low cost measures to reduce energy use, such as changes in control set points, operating procedures and maintenance practices. Without these “quick-wins” organizations lose interest in the audit outcomes; and
 - Audits don’t drive sustainable improvements in management practices. The business practices required to insure the sustainability of the solution were never even considered.
 - The need to address energy efficiency opportunities in the most energy intensive areas, such as refrigeration, heating systems, boilers, compressed air systems, steam, pumping and motor systems.

The Program will achieve increased implementation of energy efficiency amongst small and medium sized businesses much more effectively than traditional ‘audit’ tools.

The Energy Challenger tool addresses the needs and shortcomings outlined above in a way that:

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- Provides an easy-to-use business assessment/audit tool for customers that can be conducted by a manager/owner without requiring a high degree of technical competency;
- Enables decision makers to effect change in the business by providing business assessment/audit outcomes as business directives (i.e. top down vs. bottom up approach);
- Shifts energy efficiency decision making to a top down commitment approach. Addressing energy from a business systems perspective greatly increases the uptake as well as the sustainability of energy efficient measures;
- Provides a business-focused solution that can be understood and completed by decision makers (site and finance managers) as well as engineers. In a recent roll-out, 35% of Energy Challenger users were General Managers or Finance Managers and approximately 90% of Energy Challenger users are non-engineering, non-technical management staff;
- Offers an energy efficiency business assessment that can be completed in 10 minutes and, more importantly, provides meaningful output, which is of immediate value to the customer. Results from the 2006-08 Energy Challenger Program include:
 - The current Program has a very high completion rate. Of customers that started an assessment in, greater than 80% completed the online business assessment/audit; and
 - The average time to complete an Energy Challenger assessment was less than 10 minutes.
- Supplies an energy efficiency business assessment solution that educates and empowers business decision makers. Program provides businesses with practical actions to improve both energy efficiency technology as well as the critical management practices required to insure these projects achieve sustainable savings. Energy Challenger users have reduced energy costs by as much as 30 %; and
- Immediately presents the customer with a detailed business-orientated action plan that includes:
 - An estimate of annual savings;
 - Prioritized low cost energy efficiency measures (e.g. changes in set points, locations of air conditioning sensors) These low cost measures are designed to provide the business with a number of “quick-wins” that generate immediate savings for the customer and drive continued enthusiasm to reduce energy costs;
 - Augments energy-efficient hardware retrofit-type analysis by providing a broader business-wide analysis that incorporates longer term strategies for improving energy management practices. The resulting analysis is relevant not only to buildings, but also a broad spectrum of industry sectors (e.g. manufacturing, process industries etc);
 - Rates and benchmarks the business in each of six key energy management areas;
 - Provides the ability for the customer to assign responsibilities and timeframes for each recommendation, reducing the need for the customer to develop a separate action plan;

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- Provides a direct link to Company products/services for each priority recommendation providing support for the customer to implement the measure. For example, details on how to apply for the Company rebate, implementation instructions, a list of suppliers, guidelines or a workbook; and
- Provides detailed on-line benchmarking of customer outcomes against others in their sector and region.

A key feature of Energy Challenger is its flexibility, enabling it to be modified over the course of the program period to incorporate emerging technologies, new codes and standards. These improvements can be incorporated either through additions or changes to questions within the assessment, changes to actions, or links to new technologies/opportunities/initiatives from the customer's action plan.

All of the customer responses from the Program are stored in a secure database, which Company will have access to. The database can be used to identify energy efficiency trends within sectors, uptake of different technologies within Company's territory, and penetration rates of energy efficiency and demand response programs. Importantly the database can also be used to identify opportunities for targeted marketing on individual technologies in specific sectors and identify potential leads for energy efficiency and demand response programs.

d) Quantitative Program Targets:

The following two targets are identified for this Program:

Target #1 – Number of completed customer assessments

The primary target of the Program is to complete 2,500 small to medium-sized business customer assessments (audits) during 2009-11 program cycle

Target #2 – Case Studies

The secondary program target is the preparation of four case studies on businesses that have completed customer assessments and highlighting implemented measures and activities.

Cumulative annual targets by year end (December 31st) for each year are provided in Table 5.

Table 3

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Completed Customer Assessments	1,000	1,000	500
Case Studies	1	1	2

Note: Values provided represent yearly targets.

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e) Advancing Strategic Plan Goals and Objectives:

This Program advances the Strategic Plan in the following manner:

- Raises customer awareness about and directs customers to Company programs and in so doing expands utility efforts to integrate the full range of Demand Side Management (DSM) options into programs (8. DSM Coordination and Integration, Strategy 3).
- Through online provision of sophisticated auditing tool, program helps disseminate knowledge and create market pull for technologies. (11. Research and Technology, Strategy 2).
- Online tool is continuously updated to ensure that the latest technologies are incorporated and promoted (11. Research and Technology, Strategy 4).

CA Strategies for Commercial Customers (Section 3.4-Commerical Customers)

- *Access to Information*
 - The Program educates business customers on practical steps to improve energy efficiency within their facility;
 - The Program provides each business with an action plan to improve energy efficiency including a prioritized list of specific actions for the business;
 - Provides benchmarking of each business against other similar businesses/buildings;
 - Provides a carbon calculator that educates customers on their carbon footprint and helps them to understand their carbon footprint and opportunities to reduce it, in practical terms;
 - Includes practical steps to improve operations and maintenance practices to increase energy efficiency; and
 - The assessment can be updated in conjunction with Company to incorporate new and emerging technologies.
- *Financing*
 - Provides customers with an action plan incorporating prioritized actions to reduce energy consumption. Incorporates links to utility incentives to implement measures;
 - Educates customers about incentives and financing options;
 - Includes education on Company on-bill financing program;
 - Encourages discussion and interaction between owners and tenants; and
 - Includes both an assessment of and recommended actions to improve energy efficiency both through low/no-cost improvements as well as technology upgrades.
- *Codes and Standards*
 - The Program will identify technologies and solutions to provide businesses with a roadmap to implement energy efficiency improvements beyond energy efficiency standards;

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CA Enabling Strategies for Commercial Customers

- The Program conducts a holistic review of facility/ building design and equipment (including not only lighting technologies, but also Heating, Ventilation and Air Conditioner (HVAC), hot water, business processes, operating and maintenance procedures, building components, control systems, office equipment and relevant equipment for specific sectors);
- Provides recommendations to improve energy efficiency, opportunities to include in renovations and education of occupants;
- The Program can be modified during the program cycle together with Company to incorporate new utility/statewide and other non-utility initiatives, as well as emerging technologies; and
- The Program provides an integrated assessment of DSM opportunities and identifies specific retrofit solutions for each customer.

Education

- Educates small and mid-sized businesses on ways to improve energy management and take advantage of IOU sponsored services and incentives (3. Commercial Sector, Strategy 1.1);

Tools

- Provides an on-line tool (through Company's website) and strategy supported with information and direction around behavioral change and training to reduce energy use in commercial buildings. Drives improvements in operating and maintenance practices (3. Commercial Sector, Strategy 2.5); and
- Provides an on-line tool (through Company's website) to evaluate potential financial savings for energy efficiency improvements in existing commercial buildings (3. Commercial Sector, Strategy 2.6).

HVAC

- Deploys audit tool to identify inefficient HVAC and provides recommendations to improve energy efficiency. The program has the potential to result in the use of more efficient appliances and improvement in overall thermal integrity of existing structures. (6. Heating, Ventilation and Air Conditioning, Strategy 3.1).

DSM Coordination and Integration

- Delivers a tailor-made roadmap to IOU's sponsored energy efficiency and demand response programs. (8. DSM Coordination and Integration, Strategy 1.1).

Training

- Training will be provided to account managers and other marketing staff on the latest energy efficiency technologies. (9. Workforce Education and Training, Strategy 1.3).

6) Program Implementation

- a) Statewide IOU Coordination:
 - i. Program name
 - ii. Program delivery mechanisms
 - iii. Incentive levels

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- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b) Program Delivery and co-ordination:

i. Emerging Technologies program

A key feature of Energy Challenger is its flexibility, enabling it to be modified over the course of the program period to incorporate emerging technologies. These improvements can be incorporated either through additions or changes to questions within the assessment, changes to actions, or links to new technologies/opportunities/initiatives from the customer's action plan.

All of the customer responses from Energy Challenger are stored in a secure database, which Company will have access to. The database can be used to identify energy efficiency trends within sectors, uptake of emerging technologies within Company's territory, and penetration rates of energy efficiency and demand response programs. Importantly the database can also be used to identify opportunities for targeted marketing on individual technologies in specific sectors and identify potential leads for emerging technologies.

ii. Codes and Standards program

The Program will identify technologies and solutions to provide businesses with a roadmap to implement energy efficiency improvements beyond energy efficiency standards.

The Program's flexibility enables it to be modified over the course of the program period to incorporate new codes and standards. These improvements can be incorporated either through additions or changes to questions within the assessment, changes to actions, or links to new technologies/opportunities/initiatives from the customer's action plan.

iii. WE&T efforts

The Program provides an on-line resource for workforce education and training, for small to mid sized business customers.

Consistent with the 2009 – 2020 California Statewide Energy Efficiency Strategic Plan, the Program, through the on-line audit, is available as a training resource to contractors, energy auditors and building energy operators, to support them in

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identifying specific opportunities to improve energy management in small to mid sized businesses. The Program is also available as a training resource to contractors such as plumbers and electricians.

iv. Program-specific marketing and outreach efforts (provide budget)

The Program includes a comprehensive and multi-pronged marketing plan to engage with businesses across Company's territory. The Program will be targeted at small/medium sized businesses that have traditionally been 'hard-to-reach' and have historically had low participation rates in energy efficiency programs. Energy Challenger is relevant to a broad cross section of commercial and industrial sectors including, but not limited to Hospitality, Retail, Commercial, Manufacturing, Small Industrial, Schools, Hotels, Grocery and Convenience stores.

The Program will include an active marketing program that will target businesses through multiple channels such as:

- 12-monthly direct mail pieces incorporating 'Creative Objects' to stimulate interest in Energy Challenger;
- Direct marketing emails (Animated and Static) with embedded automated links to Energy Challenger;
- Outbound calls to conduct over-the-phone Energy Challenger assessments;
- Outbound calls to market Energy Challenger;
- Marketing through industry associations; and
- Preparation of case studies.

Specific marketing activities will include:

- Purchasing and screening customer lists to identify eligible customers;
- Implementing an active marketing program that will target businesses through multiple channels. All marketing activities will be approved with Company prior to implementation;
- Direct mail pieces to target Company customers incorporating 'Creative Objects' to stimulate interest in the BEA Program. Details will be agreed upon with Company. Examples of 'Creative Objects' include light switch covers with links to the BEA Program, puzzles where the solution to the puzzle is located within the BEA Program, computer mouse pads with BEA Program website and value proposition printed;
- Direct marketing emails to Company customers with embedded automated links to the BEA Program;
- Outbound customer calls to market and conduct over-the-phone Energy Challenger assessments; and
- Contractor will provide out-bound call center services that are trained on the Program and Company rebates/services and establish a dedicated phone line to take inbound customer calls that covers:

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- Over-the-phone marketing and assessments will be scripted to stimulate customer interest in Energy Challenger and outline the value proposition of the process; and
- Contact the customer and talk the customer through the business assessment/audit, entering the customer responses directly into Energy Challenger. In this way the results from the customer assessment will be stored centrally. On completion immediately email the customer a detailed report and action plan.
- Marketing messages incorporated into appropriate Company marketing materials (Contractor will prepare for Company approval);
- Marketing to target customers through industry associations and preparation of case studies.

Program specific marketing budget is detailed in the overall program budget in Table 1 above.

v. Non-energy activities of program

Energy Challenger is an energy business assessment/audit tool that covers a much broader range of energy efficiencies than covered in traditional on-line energy audits as outlined below:

- Energy Challenger covers a wide range of end use loads. The Program will be targeted at businesses with an average energy load of 20 kW up to 500 kW;
- For commercial customers, in addition to reviewing opportunities for Company technology rebates, the business assessment/audit will include broader opportunities (such as building envelope, load management, location of control sensors, operation of current control systems); and
- For industrial customers the Program will target applicable technical areas such as refrigeration, heating systems, boilers, compressed air systems, steam systems, pumping, motor systems, etc.

vi. Non-IOU Programs

Not applicable to this program.

vii. CEC work on PIER

The Program includes the following links with Public Interest Energy Research (PIER):

- The Program complements and reinforces the PIER program by providing owners and tenants of buildings with a practical tool to identify steps to improve their building end-use energy efficiency;
- The Program provides customers with a prioritized roadmap to improve energy efficiency including both technology upgrades, improvements in operating and maintenance practices and behavioral change;
- Each customer receives a detailed energy improvement report incorporating interactive links to programs, rebates and services to help them implement the opportunities;

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- The Program will identify technologies and solutions to provide businesses with a roadmap to implement energy efficiency improvements beyond energy efficiency standards;
- The Program will be modified during the course of the program period to incorporate new opportunities identified through PIER;
- To assist customer decision making, the Program prioritizes opportunities based on cost effectiveness for both no/low cost savings opportunities as well as longer term strategic improvements;
- Additionally, the Program includes a retention strategy to follow through with businesses and offer support in implementing actions;
- The Program encourages discussion and collaboration between owners and tenants on opportunities to improve energy efficiency;
- The Program is available through Company's website to other market plays including industry associations, consultants, architects and trade allies.

viii. CEC work on codes and standards

The Program supports and complements the California Energy Commission (CEC) work on Codes and Standards program by providing a road map to best practices in energy efficiency. Following an initial assessment, each customer is provided with an action plan containing prioritized measures to improve energy efficiency. The customer also receives a password, enabling them to repeat the process and identify their next steps to continued improvement and best practice in energy efficiency. As detailed in section 6b(ii) above the program also includes for on-going improvement to the assessment, to incorporate new technologies and drive the customer beyond codes and standards.

ix. Non-utility market initiatives

A significant market trend identified in the 2003 California Study "Statewide Small Industrial Customer Wants and Needs Study" conducted by Quantum for PG&E was that "Medium customers have shown themselves to be willing and able to implement energy efficiency measures when provided with detailed, actionable recommendations for cost-effective process improvements".

- The Program addresses this market trend by providing customers with detailed and actionable recommendations for cost-effective process improvements;

The same study identified that for small/medium businesses "the owner is the most important player in selecting equipment for retrofit projects".

- The Program addresses this market factor by providing a business assessment tool specifically designed for owners and managers, that addresses energy management as a business management issue; and
- Additionally marketing and outreach is targeted at business owners and managers.

The Program incorporates other non-utility initiatives, trends and market forces as follows:

- Includes energy efficiency measures beyond those covered by utility initiatives, for which the customer can utilize non-utility initiatives (e.g.

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programs available through other agencies (such as Water agencies for low flow shower heads) preferred contractor or tradesman);

- The Program will be modified during the course of the program period to incorporate new energy efficiency opportunities and technologies emerging through market forces; and
- Customers will be provided with a tailor-made roadmap to Company energy efficiency and demand response programs/incentives, and where these are not available for the measure, links to other relevant non-utility resources and programs to provide implementation support including:
 - Third party programs,
 - Environmental Protection Agency (EPA) ENERGY STAR
 - US Department of Energy (DOE) resources and programs ,
- Customers will receive a strategy and action plan that addresses both the traditional technical programs as well as identified areas for action in management practices.

Implementation

The implementation plan for the 2009-11 program period will include:

- Confirming Company's objectives to add value to business customers and confirm program deliverables;
- Planning the logistics of the continued delivery through 2009-11;
- Reviewing any changes to the Company program portfolio for 2009-11, including energy efficiency rebates and services, and third part programs; and
- Reviewing the current Company customization of Energy Challenger and updating links to Company programs as appropriate.

The Program logic model is provided in Figure 8.

Phone Marketing and Over-the-phone Energy Challenger assessments

- In addition to providing a self-serve Energy Challenger application through the Company website, Contractor will conduct over-the-phone marketing and over-the-phone facilitated Energy Challenger assessments through Contractor's program partner.
- Over-the-phone marketing will be scripted to stimulate customer interest in the Program and outline the value proposition of the process; and
- Over-the-phone Energy Challenger assessments will be conducted for businesses who need step-by-step guidance. It will cover the same questions and content as outlined above for the on-line assessments. Customers will be contacted by outbound calls initiated by Customer Link or a customer expressing interest in a business assessment/audit to Company or through Company's account management staff.
- Contractor will provide call center services that are trained on the Company Program, as well as a dedicated phone line to take inbound customer calls;
 - For outbound marketing, contact the customer, introduce the process to the customer and outline the value proposition; and

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- For outbound over-the-phone Energy Challenger assessments, customers contact the customer and talk the customer through the business assessment/audit, entering the customer responses directly into Energy Challenger. In this way the results from the customer assessment will be stored centrally.
- Provide the customer with a summary of outcomes and recommendations over-the-phone on completion of the business assessment/audit; and
- E-mail or mail the final Energy Challenger report to the customer.

Customer engagement, marketing and retention strategies are summarized in the following figure.

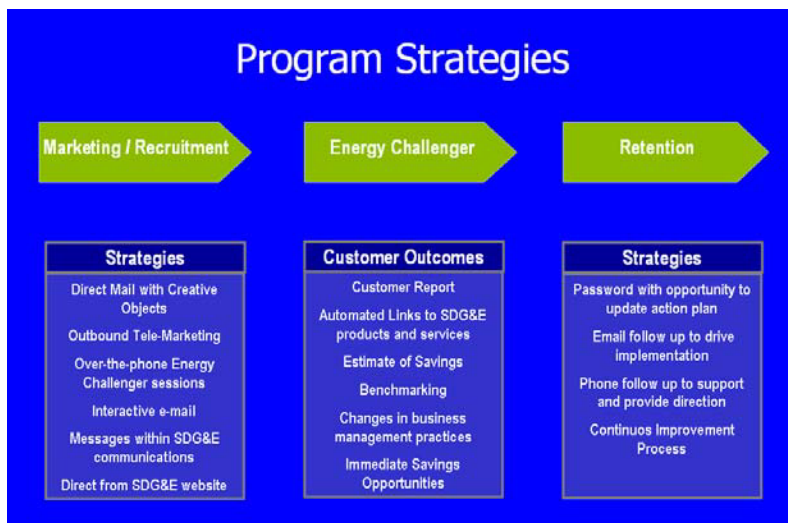


Figure 6 –Program Strategies

Contractor will follow through with customers that have completed Energy Challenger assessments to encourage implementation of the identified priority energy efficiency measures. Customers will receive either email or phone follow up based on the value of the opportunities identified by Energy Challenger.

- Automated email follow-up to Energy Challenger assessments will offer support in implementing recommendations; and
- Outbound calls to customers that have completed assessments, providing support on Energy Challenger recommendations and offering them of the opportunity to repeat the assessment.

The Program will subcontract the following functions:

- Conduct outbound over-the-phone Energy Challenger assessments, outbound marketing and follow-up phone assessments to review results and discuss next steps. In addition, there will be on-going training for representatives to continue to improve over-the-phone marketing and retention; and
- Prepare and distribute direct mail and e-mail campaigns during the program period.

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c) Best Practices:

The Program will utilize the following best practices in Non-residential programs (from www.eebestpractices.com):

- Program Design
 - Developing a sound program plan and a clearly articulated program theory;
 - Anticipating and tackling non-residential market challenges as discussed in section 5c above;
 - Developing and disseminating case studies of success stories;
- Program Implementation
 - Keeping the application process simple and quick to navigate while at the same time not over simplifying;
 - Providing technical assistance to help applicants through the process;
 - Using personal marketing, to identify and address customer specific barriers and issues;
 - Training of account managers and other marketing staff on the latest energy efficiency technologies;
 - Using the Program’s website to broadly inform the market and attract participation;
- Program Management
 - Linking staff performance to independently verified results;
 - Utilizing electronic workflow management and web-based communications;
 - Using automated notification to achieve close monitoring and management of progress;
 - Integrating all program data, including measure-level data, into a single database.
- Program Evaluation
 - Conducting both process and impact evaluations routinely;

d) Innovation:

The Program will provide Company with a proven and fundamentally innovative solution. Innovative elements of the solution (not previously discussed) include:

- A proven method of engaging senior managers and small business owners to gain commitment and buy-in to improving energy efficiency;
- Transforms the “selling” process with the customer from the traditional, low success rate, “bottom-up” approach (begins with facility managers and engineers and ends with management acceptance) to a highly successful, “top-down” approach that begins with senior management commitment;
- An easy-to-use energy management business assessment tool that does not require a high degree of technical knowledge;

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- Helps business managers to understand, identify, and move forward with energy management savings opportunities;
- Includes follow through with businesses to drive implementation;
- Delivers decision makers with a solution that educates and empowers them to make changes in energy management practices as well as technology improvements. Energy Challenger users have reduced energy costs by as much as 30%; and
- Immediately presents the customer with a detailed business orientated action plan that includes:
 - An estimate of annual savings;
 - Short term, quick wins and long term, continuous improvement actions for reducing energy costs;
 - Rates the business in each of six key energy management areas;
 - Assistance in assigning responsibilities and timeframes for each recommendation;
 - Direct links to Company products/services for each priority action, providing support for the customer to implement the measure; and
 - Benchmarking of customer outcomes against others in their sector and region.

e) Integrated/Coordinated Demand Side Management:

The Business Energy Assessment is in itself a coordinated assessment of potential DSM opportunities for small and medium sized business customers. It is tailored to the business sector and size of customer. The assessment includes energy efficiency technologies as well as operating and maintenance practices, demand response, integrated program delivery. The customer report includes both technology improvements as well as improvements in management and operating practices.

The Program has close linkages with Company's portfolio of energy efficiency and demand response programs for small and medium sized business customers including; Customer Energy Savings Bid, Energy Waves, Express Efficiency, Small Business Super Saver, Savings by Design, Energy Efficiency Business Seminars, Demand Response Programs and On Bill Financing Program. The linkages to Company's energy efficiency and demand response programs are represented in Figure 7 (technology groups are represented down the left hand column, Company programs are represented across the top).

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		Customer Energy Savings Bid	Energy Waves	Standard Performance Contact	Express Efficiency	Savings by Design	Energy Efficiency Business Seminars	Newsletter and Savings Tips	On Bill Financing Program	Demand Response Programs
EnVinta Energy Challenger Element		San Diego Gas and Electric EE / DSM Programs								
1	Management Commitment									
2	Accountabilities									
3	Staff awareness						X	X		
4	Understanding opportunities	X		X		X	X	X		
5	Energy data management		X							
6	Reporting systems for energy use		X							X
7	Planning and targets			X						X
8	Lighting fixtures and Controls	X		X	X	X			X	X
9	Efficiency of building structure	X		X		X			X	X
10	Office equipment	X		X		X			X	X
11	Motors and drives	X		X		X			X	X
12	HVAC and controls	X		X	X	X			X	X
13	Refrigeration	X		X	X	X			X	X
14	Hot water	X		X		X			X	X
15	Operating procedures			X						X
16	Maintenance practices			X						X
17	Demand management and power factor			X						X
18	Process optimisation	X		X		X			X	X
19	Pumps and fans	X		X		X			X	X
20	Compressed air system efficiency	X		X		X			X	X
21	Materials processing	X		X		X			X	X
22	Process heating / heat recovery	X		X		X			X	X

Figure 7

f) Integration Across Resource Types (energy, water, air quality, etc):

The Program is primarily focused on improvements in energy resource management. In addition, the Program includes assessment of water efficiency opportunities where the energy measure/technology also has a water resource component (e.g. low flow shower heads and pre-rinse valves on dishwashers). That is, the measure/technology delivers both improvements to energy and water efficiency.

g) Pilots:

The Program for 2009-11 is an extension of an existing 2006-08 program and as such does not include any pilot projects. The program design and delivery has been continuously improved based on feedback received during the 2006-08 cycle.

h) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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7) Diagram of Program :

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model:

The Program logic model is provided in Figure 8. Program strategies are provided in Figure 6.

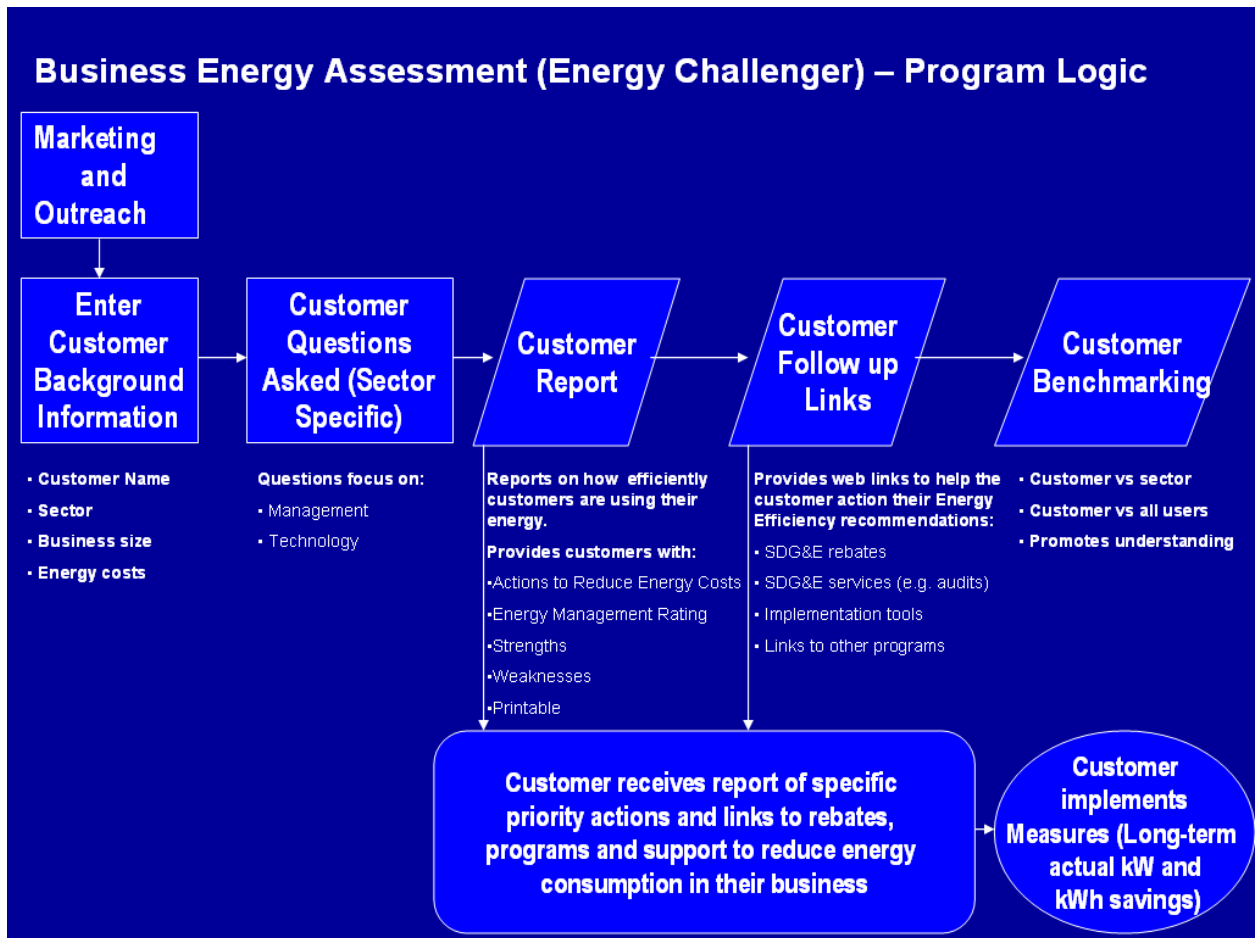


Figure 8 – Program Logic Model

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- 1) Program Name: CHEERS New Construction *Advanced Rating Program*
 Program ID Number: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Residential					
	3P-Res06 - CHEERS	135,396	32,000	315,000	0	482,396
	TOTAL:	\$ 135,396	\$ 32,000	\$ 315,000	\$ -	\$ 482,396

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Residential			
	3P-Res06 - CHEERS			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

This is a non-resource program and is not claiming energy savings.

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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4) Program Description

a) Describe Program

Increasingly, greater focus has been placed upon new construction energy efficiency programs and the energy savings generated by these programs. From 2002-2005, San Diego Gas & Electric (SDG&E) offered the *California ENERGY STAR® New Homes Program* to the residential new construction marketplace. For the 2006-2008 program period, the program was changed to the *Advanced Home Program* with three components, the *California ENERGY STAR® New Homes Program*, the *High Performing New Homes* program, and a prescriptive program that supported individual measures. Both the *California ENERGY STAR® New Homes Program* and the *High Performing New Homes* programs were performance-based and required a minimum increased performance of fifteen percent above the compliance level required by the currently in-force *California Building Energy Efficiency Standards (Standards)*. While the programs tracked the actual performance of each architectural plan (building) to insure program compliance, heretofore, there had not been a mechanism to easily and accurately utilize the on-site verification results to determine the actual energy savings produced by the program. The current method would require that the changes be manually collected and the compliance software input files edited and reprocessed for each building in the project. In addition, the performance level used for the buildings has always been the orientation that produced the lowest performance level. This alone has not allowed for the actual performance of the buildings to be captured. To manually collect the changes and orientation and create individual results for each building would not be practical from both a labor and time perspective.

For 2009, the residential new construction program will follow the lead that *Savings By Design* has begun by offering, for the first time, incentives that reflect the actual energy savings the building generates. However, as opposed to *Savings By Design*, which may deal within each project with one or only a few buildings, a residential project can have many different building types, especially in a project that offers a number of option. Additionally, to accurately calculate the incentives for each building the orientation must be considered. This can create a significant amount of effort to calculate the energy savings and incentives¹. Therefore, to insure that these savings are not lost and go unreported a method needs to be developed that simplifies the collection, calculation and reporting of these energy efficiency savings and the associated incentives.

The **CHEERS² New Construction Advanced Rating Program** seeks to bridge this reporting gap by taking a further step in the program process. Presently, each compliance software process consists of two elements, an input file, which represents the building; orientation, envelop features, and mechanical to create a building department compliance document, or in the case of the utility programs, utility program compliance document. The second element is a transfer file that contains all of the inputs and calculation results of the input file but in a format that can be transferred to a HERS provider³ database such

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as the CHEERS Registry. The CHEERS Registry contains all the program participants from the residential new construction programs since 2002. Elements contained are the project information, the plan types, the lots and buildings that were constructed for each plan and the field verifications of each lot and building. A HERS⁴ rater performs field inspection and verification and edits the plan information in the CHEERS Registry so that envelope and mechanical features are accurate to the specific as-built building. However, the only results that were reported are that the building either met the Standards, for the building departments, or qualified for the utility program. Historically, the process would end at this point leaving the potential increase in energy savings the building would produce lost.

The current process is illustrated by the following graphic. Once the project was completed and all verifications have been reported the information remains in the Registry but is utilized no further.

Current Process

The *Advanced Rating Program* seeks to reverse the process and complete the circle by feeding the changes that were reported by the HERS rater to a revised transfer file and then back to a revised input file so that the file can be reprocessed and the actual energy savings the building will produce can be reported. This affords the utility a unique opportunity to maximize the energy savings reported and create an accurate picture of the projects energy efficiency performance without a significant expenditure of labor and time.

The graphic below demonstrate how the *Advanced Rating Program* could pick up at the point when the field verification results have been entered into the CHEERS Registry.

Advanced Rating Program

The *Advanced Rating Program* offers significant potential to the utility in reporting energy savings, the core of this concept is a program that not only generates the final energy savings a building produces, but a program that facilitates the managing, processing, and reporting of the new construction programs.

The *Advanced Rating Program* increases current energy savings results by capturing additional energy savings from the New Construction programs, *Advanced Home Program* and *Savings By Design* without increasing the program's administrative or marketing costs. This program will helps SDG&E capture incremental energy savings

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that are created by new home and building construction than are currently reported. Accumulated over time, these “lost” energy savings can help the Investor Owned Utilities (IOU) meet ever-increasing energy savings goals mandated by the CPUC even as the *Standards* and ENERGY STAR® requirements become more stringent.

b) List measures

This program does not have any specific equipment measures that would have direct implementation funds allocated. The *Advanced Rating Program* will seek to support the new construction programs, *Savings By Design* and the *Advanced Home Program* field verification activities by managing the HERS inspections that will occur. This activity will be further defined following the implementation of the 2009-2011 revised programs. Funding for this activity is not included in the *Advanced Rating Program* budget proposal and will be drawn from the new construction program budget or alternative source as defined by the utility.

c) List non-incentive customer services

CHEERS will provide an extensive training program to the market actors that would be associated with the *Advanced Rating Program*. It is anticipated that twelve (12) classes in total will be created and presented that will target utility personal, HERS raters, and energy analysts.

Utility Personal

Training classes will be developed and presented to the utility personal that will be utilizing the *Advanced Rating Program*. Training will consist of education on the new *Standards*, CHEERS Registry, and the *Advanced Rating Program* processes. It is anticipated that two (2) training classes will be necessary to cover the material. An additional training class will be created and presented that reviews the changes to the *Energy Efficiency Standards* as they pertain to the utility and its energy efficiency programs. Therefore a total of three (3) classes will be offered to the utility.

HERS Raters

Training classes will be developed and presented to HERS raters on the CHEERS Registry as it pertains to the *Advanced Rating Program*. These trainings will present an overview of the purpose of the *Advanced Rating Program* and will cover field inspection and reporting requirements that are necessary for the success of the program and the data entry protocols. The training will also review proper data entry requirements for the CHEERS Registry as well as methodologies for field capture of the as-built specifications. It is anticipated that five to six (5 to 6) classes will be necessary to reach the HERS rater population in various geographic areas of southern California. Additionally, the training programs will review the utility program features and requirements to insure that the HERS rater can communicate to their builders the benefits of program participation.

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Energy Analysts

Crucial to the successful reporting of the as-built energy savings is proper modeling of the building by the energy analysts. Three (3) classes will be offered to review modeling procedures with the analysts to insure accuracy in as-designed specifications. The classes will also review the *Advanced Rating Program* processes, compliance software modeling procedures, and utility program features and requirements.

Reports

Working in conjunction with SDG&E program management staff, CHEERS will develop reports from the CHEERS Registry that support the utility in its program management, CPUC, and audit reporting requirements.

5) Program Rationale and Expected Outcome

In the new construction programs, significant energy savings produced by the design and final construction of the building are lost because the energy savings reported are not the actual savings the building achieved, based upon the recommendations from the utility and the changes made by the builder, but deemed savings. Only the nonresidential new construction program, *Savings By Design*, captures the as-designed energy savings. However, for the residential new construction program, field verification does capture the as-built changes to the as-designed building to validate program participation. However, the energy savings associated with these changes are never calculated and further, these potential additional energy savings are never report by the utility. This represents an untapped energy savings potential. The *Advanced Rating Program* seeks to capture these “lost” energy savings by revising the compliance documents with the actual as-built results from the field inspection. These results will be entered into the CHEERS Registry and revised energy savings will be generated and reported. In addition, the program will track for each building and project:

- Initial transfer file data
- Initial energy savings results
- Initial financial incentive
- Revised building data from field inspection
- Revised transfer files
- Revised input files for compliance software
- Revised energy savings representing field inspection results
- Revised financial incentive report

Specific reporting requirements will be determined by working in conjunction with the utility.

a) Quantitative Baseline and Market Transformation Information

Table 3

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	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

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b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers

The following table provides descriptions of the barriers that the *Advanced Rating Program* seeks to address and the solutions the *Advanced Rating Program* proposes to overcome the barrier.

Barrier	Solution
Lack of consumer information about energy efficiency benefits	The program will offer extensive training to HERS raters regarding the utility energy efficiency programs and the benefits available to the builder.
Split incentives (between owners/landlords and tenants)	Not a program element.
Lack of financing for energy efficiency improvements	Incentives available to builders from the utility will be covered in the training program.
Lack of a viable and competitive set of providers of energy efficiency services in the market	Through HERS rater and energy analyst training the market potential and delivery of energy efficiency will increase.
Barriers to the entry of new energy efficiency service providers	Not a program element.
Lack of availability of high-efficiency products	Not a program element.
Barriers to the entry of new energy efficiency technologies or systems whose efficiency or system performance levels are uncertain due to lack of experience	By creating a catalog of energy efficiency elements incorporated in new construction, the program will be able to determine what technologies are underutilized. This will allow the utility to determine what additional marketing is required to remove this barrier.
Lack of a viable and reliable resources to educate and inform	Through CHEERS, a recognized trainer in energy efficiency, expanded training in not only the program but in energy efficiency will be made available.
Limited flexibility of program guidelines	The program is extremely flexible and can be adapted to changes in energy efficiency program guidelines and policies.
Lack of qualified personnel resources to support objectives.	The program staff is qualified as both CEA and HERS raters.
Residential	

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Barrier	Solution
Customers who do not have easy access to information or do not participate in energy efficiency are due to:	
Language: Primary language spoken is other than English	CHEERS will address additional language literature if necessary.
Income: Income levels less than 400% of federal poverty guidelines	The program is available to all housing types including affordable.
Housing Type: Multi-family and mobile home tenants	The program is only available to multi-family construction due to Energy Code requirements.
Geographic: Residents of areas other than the San Francisco Bay Area, San Diego area, Los Angeles Basin or Sacramento,	The program is available to all areas where new construction is taking place. There are no geographic barriers.
Homeownership: Tenants (renters)	Not a program element.
Nonresidential	
Customers who do not have easy access to energy efficiency program information or generally do not participate in programs due to:	
Language: Primary language spoken is other than English	CHEERS will address additional language literature if necessary.
Business Size: Less than ten employees and/or classified as Very Small (as defined above)	The program is not limited to business size.
Geographic: Businesses in areas other than the San Francisco Bay Area, San Diego area, Los Angeles Basin or Sacramento	The program is available to all areas where new construction is taking place. There are no geographic barriers.
Lease: Investments in improvements to the building benefit the business only during the lease period, while landlords benefit for longer periods	Not a program element.
OTHER BARRIERS	
Agreeing upon the procedures and measurement of energy saving and reliability benefits	CHEERS will work with the utility and other parties as necessary to insure the accuracy of the energy savings reported by the program.
Institutions that routinely monitor consumption as yet need to get acquainted with the new technologies	The program will assist in reporting the actual energy savings, as reported by the compliance software, the new construction projects generate.
The models developed for assessing usage are often confusing to financiers & managers. Need to be expressed in plain English,	Not a program element.
Reduction assessment is seen as an effort with limited returns,	By developing models that will demonstrate the actual energy savings produced by the building the new construction programs can more accurately demonstrate the cost effectiveness of energy efficiency and the true incremental cost of program participation.

d) Quantitative Program Targets

The CHEERS New Construction *Advanced Rating Program* supports the Residential New Construction Programs by developing a software enhancement to the CHEERS

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database that calculates the as-built energy savings the program generates. The incremental energy savings produced by the program will be reported by the Residential New Construction Program and will not be separately reported by the *Advanced Rating Program*. The program will not install any specific measures but will support the performance-based utility programs. Quantitative elements for the program are the training classes that will be offered over the 2009-2011 program cycle. These are detailed in the table below.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1	Utility Training	Utility Training	Utility Training
Target #2	HERS rater training	HERS rater training (3)	HERS rater training (2)
Target #3	Energy analyst training	Energy analyst training	Energy analyst training
Target #4			

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives

The Advanced Rating Program advances the California Long Term energy Efficiency Strategic Plan in the following ways:

California Long Term Energy Efficiency Strategic Plan Goals and Strategies

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
Program informs as to the actual energy savings produced by the building	Residential	Knowledge of energy savings will inform as to the potential for projects to reach zero net energy and technologies currently employed by builders.	1-1: Drive continual advances in technologies in the building envelope, including building materials and systems, construction methods, distributed generation, and building design.
Program will accurately report the as-built components of new construction	Residential	Knowledge of actual building components can assist in determining next steps for the Building Standards.	1-3: Coordinate and Support "Reach" Building Standards
Program coordinates with utility Whole-House performance-based programs.	Residential	Focusing on Whole-House construction elements the program will inform as to builders current construction practices enabling the utility to determine program refinements in the future.	2-1: Deploy full-scale Whole-House programs.
Program will inform as to actual construction practices.	Residential	By reporting the actual construction practices the program can increase Standard's compliance.	2-5: Increase Title 24 compliance through specific measures leading to aggressive statewide enforcement.

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Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
Program will inform as to actual construction practices.	Commercial	In order to move to zero net energy the current and actual construction practices need to be evaluated. The program offers this potential.	1-3 Establish a "Path to Zero" Campaign to create demand for high-efficiency buildings.
Program will information as to actual construction practices.	Codes and Standards	Knowledge of the elements used in new construction and the actual energy savings generated by a project can assist codes and standards in proposing changes in future programs and standards.	1-5: Improve coordination of energy codes and standards with utility programs.
Program informs as to the actual energy savings produced by the building	Marketing, Education and Outreach	By reporting the actual energy savings produced by the building the program will insure that the energy efficiency programs are accurate and reliable estimators of energy savings and energy efficiency.	1-1: Establish a recognizable and trustworthy brand for California's Energy Efficiency and other DSM consumer products and services

6) Program Implementation

a. Statewide IOU Coordination

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

The *Advanced Rating Program* only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program, new construction, activities. However, the program's elements and training are applicable to other IOU core programs. SDG&E and the Contractor will strive to coordinate the similar activities of the *Advanced Rating Program* with other utility programs as necessary.

b. Program delivery and coordination:

- i. Emerging Technologies program
- ii. Codes and Standards program
- iii. WE&T efforts
- iv. Program-specific marketing and outreach efforts (provide budget)

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- v. Non-energy activities of program
- vi. Non-IOU Programs
- vii. CEC work on PIER
- viii. CEC work on codes and standards
- ix. Non-utility market initiatives

Where applicable, include specific references to other sections of the application where there is more detail.

The following table outlines the *Advanced Rating Program's* implementation process.

Action/Milestone	Purpose
Achieve consensus on what field data to incorporate in program	Work with SDG&E to insure that all data necessary is captured by the CHEERS Registry.
Reevaluate current export file	Insure the current export file from the compliance softwares to the CHEERS Registry contains all the necessary fields. Also redefine, if necessary, how original-plan data and field data coincide within the CHEERS Registry.
Define data format for import file	Define the format for the new import file from the CHEERS Registry to the compliance softwares. Insure that the import file contains all the field data required for energy-savings calculations.
Define process for recalculation of the energy savings results	In working with the compliance software vendors establish a methodology to automate recalculation of the energy savings results from the as-built field verification.
Beta test the data-transfer process	Coordinate efforts between SDG&E, CHEERS, specified plan-check firms and specified EM&V contractors to insure data is transferred appropriately
Implement new data-transfer process	Provide training on the new process to all stakeholders: SDG&E personnel, HERS raters, energy analysts, plan-check firms and EM&V contractors.
Evaluate the program's success	After a time period specified by SDG&E, compare the energy savings generated by our program with that generated by the prior method. Determine how much "missed" energy savings the program recaptures.

- i. Emerging Technologies program

By identifying the actual technologies installed in new construction the *Advanced Rating Program* will inform the utility on potential underutilized emerging technologies. A report can be generated to demonstrate the technologies as they are distributed throughout the service territory and any potential gaps that may be occurring.

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ii. Codes and Standards Program

The *Advanced Rating Program* will support Codes and Standards by informing as to the actual energy efficiency technologies that are utilized by new construction.

iii. Workforce Education and Training

The *Advanced Rating Program* will offer training to the HERS raters on field verification procedures and program data entry requirements. Further training will be offered to the energy analysts to insure transfer files are properly created.

iv. Program specific marketing and outreach

The *Advanced Rating Program* will not market directly to homebuilders or consumers. CHEERS will, however, offer training classes to the market actors to insure program success.

v. Non-energy activities of program

The primary non-energy activities of the *Advanced Rating Program* will be training to the market actors. These training activities are detailed in 4(c).

vi. Non-IOU programs

While the principle focus of the *Advanced Rating Program* is to the new construction programs of the utility, an indirect benefit of the program is to insure compliance with the *Standards*. Once in place, the program can be utilized for not only utility programs but also to review the compliance margins achieved for new construction that has HERS inspections. This feature can help inform the California Energy Commission (CEC) on elements used for compliance with the *Standards* and potential non-compliance activity.

vii. CEC work on PIER

The *Advanced Rating Program* will support the CEC in its desire to insure compliance with the *Standards*, however, at this time no specific PIER project has been identified that the program would coordinate with.

viii. CEC work on codes and standards

By informing as the nature of new construction, the *Advanced Rating Program* will assist both the CEC and its activities on Codes and Standards. The field results will inform as to the deviation between the as-designed and the as-built

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buildings. This information will enable the CEC to better prepare changes to the future *Standards*.

ix. Non-utility market initiatives

The *Advanced Rating Program* is conceived to support the utility program and enhance the energy savings potential. It will also inform as to the compliance potential for non-program projects that have HERS verifications.

c. Best Practices

This program will integrate best practices as appropriate.

d. Innovation

This program is innovative in seeking to capture and record the actual energy savings that may be occurring in the marketplace. The program will also inform as to the deviation between as-designed and as-built building.

e. Integrated/coordinated Demand Side Management

Although the Program is focused on new construction, to the extent there are opportunities for integrated DSM, the Program will pursue them.

f. Integration across resource types

This program is focused entirely on new construction rating and is not integrated across resource types.

g. Pilots

This program has no planned pilots.

h. EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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7) Diagram of Program

Current Process

The *Advanced Rating Program* seeks to reverse the process and complete the circle by feeding the changes that were reported by the HERS rater to a revised transfer file and then back to a revised input file so that the file can be reprocessed and the actual energy savings the building will produce can be reported. This affords the utility a unique opportunity to maximize the energy savings reported and create an accurate picture of the projects energy efficiency performance without a significant expenditure of labor and time.

The graphic below demonstrate how the *Advanced Rating Program* could pick up at the point when the field verification results have been entered into the CHEERS Registry.

Advanced Rating Program

8) Program Logic Model

The third party is an implementation channel and is included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

¹ For example; given a project that has three building types, each with three options that affect the energy savings the building produces, there are nine different energy savings calculations. Further, if the orientation is considered, and is only addressed cardinally, there are thirty-six different energy savings calculations. If the precise orientation is consider this number would increase to potentially report a different calculation for each building.

² The California Home Energy Efficiency Rating Services (CHEERS), a nonprofit organization dedicated to the provision of home energy rating services, has been in existence since 1991. Since that time the organization has actively supported the California utilities in the implementation of their residential new construction programs. In addition, since its inception, CHEERS has trained and certified home energy raters, developed rating software and processed home energy ratings. The CHEERS database (CHEERS Registry) has served as the statewide residential new construction program warehouse for program participation and verification since 2002.

³ Home Energy Rating System (HERS) Providers are organizations that administer a home energy rating system in compliance with the *California Code of Regulations, Title 20, Chapter 4, Article 8, Sections 1670-1675*.

⁴ Home Energy Rating System (HERS) raters are special inspectors certified by a HERS provider, such as CHEERS, under the auspices of the California Energy Commission (CEC) to verify (rate) homes in California. These ratings include field verification and diagnostic testing to determine the energy efficiency level among buildings tested for duct efficiency, envelope leakage and building insulation for compliance with the current *Standards*. For an ENERGY STAR® building this role expands. The rater is responsible for insuring that the as-built building

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elements, envelope and mechanical, are identical to the as-designed documents. In addition, utility programs have utilized HERS raters to provide field verification and documentation of successful program participation.

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- 1) Program Name: Comprehensive Industrial Energy Efficiency
Program ID Number: TBD
Program type: Third-Party Program
- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes12 - Comprehensive Industrial Energy Effic	103,176	108,301	420,272	0	631,749
	TOTAL:	\$ 103,176	\$ 108,301	\$ 420,272	\$ -	\$ 631,749

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes12 - Comprehensive Industrial Energy Effic			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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a) Describe program

San Diego Gas & Electric (SDG&E) will continue the momentum established under its 2008 Investment Grade Audit Pilot Program with industrial customers to implement cost-effective energy efficiency projects directly with customers in the industrial market segment in Company's service territory. The program will develop and implement energy efficiency projects with a focus on both demand reduction and energy efficiency. The program will concentrate primarily on the following technologies:

- Heating, Ventilating, and Air Conditioning (HVAC) upgrades,
- Controls upgrades,
- Process electricity and gas efficiency,
- Lighting retrofits involving new T-5 and T-8 fluorescent fixtures and associated lighting controls (occupancy sensors),
- Compressed Air System Optimization,
- Process chilled water optimization,
- Process Gas Efficiency including Boiler Economizers, Condensate Return and Cold Isostatic Press (CIP) Optimization; and
- Variable Frequency Drives on Process Pumps and Fans.

The program scope and objective will include an operational savings and continuous improvement component called Monitoring and Targeting (M&T) services. This service is offered to establish information processes and tools to provide industry benchmarking, correlation of utility use to production levels, and continuous improvements (energy use reductions) in energy efficiency in industrial facilities. Key elements of the program's M&T services will include:

- Measurement of utility consumption to discrete levels of usage (sub-metering),
- Comparing consumption against a calculated target (baseline), varying by production through-put (kWh per unit of production),
- Regular weekly reporting of daily or shift data with variances from targets,
- Enabling front-line, operating personnel to act on variances,
- Establishing long-term targets for "best practices" operations and maintenance procedures,
- Sustaining improvement processes through developing:
 - a. organizational design and relationships,
 - b. skills and training programs; and
 - c. management commitment and communications needed to effectively capture and sustain potential energy savings.

Implementation

A key element to the successful performance of the proposed Comprehensive Industrial Energy Efficiency Program is for the program staff to develop an informed, cooperative and trusted business and working relationship network with the Company Account Representatives to identify and develop eligible customers. Individual and group meetings with account representatives will be conducted in order to communicate, plan and agree to the proposed program's method of approach to each account representative's qualified customers.

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The Program's approach must be qualified, planned and driven by the end-use customer's individual organizational profile including consideration of their:

- Management and decision-making structure, including capital allocation procedures
- Energy consumption and profile
- Interest in energy cost savings and their ability to invest in energy projects or willingness to consider project financing

The customer's profile will be evaluated by and between the Account Representatives and the program's business development staff to qualify each customer and their potential to commit to the development of energy efficiency projects to meet targeted energy and demand reduction goals. The careful evaluation and qualification of end-use customer's energy efficiency opportunities based upon a customer profile criteria is a strategic component to successfully meet and exceed kWh, kW and therm reduction goals and to maximize the cost effectiveness of the program.

As Program Contractor, Contractor's roles and responsibilities will be comprehensive, from initial contact through to implementation and verification of savings, including:

- The 2009-2011 Program will have Contractor working with a large set of Industrial and other identified large customers and projects already known by Contractor, as a result of the existing Company 2008 Investment Grade Audit Pilot Program. Contractor will expand the existing relationships with many of these customers and account managers working with them as pre-qualified customers, and identify new prospects through various means (other utility account managers, vendor networking, etc.)
- Contractor will make personal contact with potential customers through their Company Account Manager and describe in detail the benefits of facility assessment and the Company Program.
- Contractor will design, develop and distribute marketing and outreach materials within the Company Target Market including industrial and/or other large end customers.
- Contractor will approach customers by a series of steps: through the Company Account Managers and Contractor's vendor/subcontractor network, telephone follow-up to set appointments and personal visits to the customer facility. Contractor will also participate in local industry conferences and other trade events to develop relationships, promote the program and to introduce the Program to potential new customers.
- Once customers express an interest in the Program, Contractor will then conduct a comprehensive assessment to estimate the potential costs and benefits to the customer, will recommend equipment, installation of equipment and M&T/Continuous Improvement processes that will save energy and accomplish the customer's participation objectives.
- Contractor will then make a presentation to the owner (including project scope, costs and financial pro-forma) and offer a project that will provide acceptable financial benefits to the customer.

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- The offering will include an incentive that represents a portion of the incremental cost to install the energy efficient equipment (incentives will be at the same level as Company's core programs).
- The owner and Contractor will modify and negotiate scope and other project details, followed by the owner's commitment to proceed with the project.
- The project will be installed by Contractor or the owner.
- The project will be inspected, as required, and savings documented (including M&V if required).
- The incentive will be invoiced to Company.
- The incentive will be paid to customer.

The most effective path to the program goals and results is through marketing distribution efforts that directly reach end-use customers at a targeted level engaging Company Account Managers and Contractor's network of subcontractors and vendors. Utilizing these contacts as marketing channels also lends reliability and knowledge of the customer to the marketing effort. This delivery method ensures a much greater probability of reaching targeted success from exposure to and an effective understanding of the program.

b) List measures

Measure Mix	kWh	kW	Therms	Incentive (\$)
M&T - Continuous Improvement Process Operational Efficiency Improvements	2,460,000	243	230,400	\$300,000
Process Gas Efficiency - Boiler Economizer	-	-	164,400	\$131,520
Process Gas Efficiency - Regenerative Oxidizer	-	-	782,500	\$626,000
Process Efficiency Improvements	43,770	-	1,991	\$7,500
Other Mechanical VFDs, Fans, Pumps, Motors	4,188,420	540	-	\$218,565
High Bay Fluorescent Fixtures	10,993,500	1,255	-	\$549,675
High Bay Fluorescent Fixtures Occupancy Sensors	1,036,000	-	-	\$51,800
Comprehensive Compressed Air Retrofit	11,035,500	651	-	\$882,840
Total	29,757,190	2,689	1,179,291	\$2,767,900

c) List non-incentive customer services

The program provides comprehensive, facility-wide audits for industrial customers of Company. While energy efficiency measures that are derived from the audits may yield utility incentives, the audits themselves consist of non-incentive services.

During comprehensive audits, customer opportunities for demand response, renewable generation, combined heat and power, and green house gas emissions reduction are all discussed with the industrial customer. Consulting in these areas is also a non-incentive service.

Contractor also provides project implementation services in the form of general contracting or construction management services. These services are offered to the

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industrial customer under a standard commercial agreement and are not covered under utility incentives.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

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Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers

Historically, utility programs have, by various means, provided energy efficiency audits of industrial customer facilities that lack the depth and detail upon which sophisticated industrial customers can make informed technical and investment decisions that meet the requirements for corporate approval and project implementation.

Facility owners are interested in increasing or maintaining the value of their companies, reducing operating costs and facility downtime associated with facility maintenance, reducing the energy costs, being seen in the market as a provider of high-quality products and services, and being perceived as an environmentally responsible company. This results in a market opportunity for a program to offer services that make it economically attractive for owners to achieve their overall corporate goals while reducing energy demand and consumption at the same time.

Customer and market barriers toward energy efficiency are common across many industrial market segments. The barriers to navigating the customer decision-making process, customer capital allocation, limited customer resources (for evaluation and implementation) and a lack of knowledge regarding the effective ability to buy down energy saving projects with applicable utility incentives are all present in industrial market segments.

This program involves a comprehensive energy project focus including delivery of a specific action plan that identifies investment grade detail, including specific cost estimates for each energy efficiency measure, the calculated energy savings for each measure, the quantified utility financial incentive allocation, and the return on investment analysis, needed by industrial customers to navigate their organization's capital approval processes.

The program will address the common issues in the industrial market segment and offer the program as a solution to these challenges. The program will discuss with the customer at or prior to the first meeting, the need for a financial level decision maker in the development process and will discuss customer internal investment thresholds and explore their capital allocation processes, and how energy efficiency might best be

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funded. The program itself will be offered as a solution to having limited resources (for evaluation and implementation) and most importantly, the program will estimate and show the customer how the utility incentive substantially contributes to their energy project investment. The customer and market barriers are best navigated upfront by communicating and showing the customer that the program is the solution toward overcoming perceived customer and market barriers.

d) Quantitative Program Targets

Table 5

Comprehensive Industrial Energy Efficiency	Program Target by 2009	Program Target by 2010	Program Target by 2011
Facilities Audited	8 large industrial customers	12 large industrial customers	20 large industrial customers

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

This program supports the Strategic Plan in the following manner:

- Offers a customized package of integrated products to enhance the potential energy savings and penetration rate (4. Industrial Sector, Strategy 1.1)
- Includes recommendations that integrate the full range of EE and DSM options (8. DSM Coordination and Integration, Strategy 1.3)

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:

- i. Emerging Technologies program
Not applicable to this program.

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ii. Codes and Standards program
Not applicable to this program.

iii. WE&T efforts
Not applicable to this program.

iv. Program-specific marketing and outreach efforts (provide budget)
The program marketing/outreach budget is \$240,000. Marketing and outreach activities will include:

- Contractor working with a large set of Industrial and other identified large customers and projects already known by Contractor, as a result of Company's 2008 Investment Grade Audit Pilot Program. Contractor will expand the existing relationships with many of these customers and account managers working with them as pre-qualified customers, and identify new prospects through various means (other utility account managers, vendor networking, etc.)
- Contractor will make personal contact with potential customers through their Company Account Manager and describe in detail the benefits of facility assessment and the Company Program.
- Contractor will design, develop and distribute marketing and outreach materials within the Company Target Market including industrial and/or other large end customers.
- Contractor will approach customers by a series of steps: through the Company Account Managers and its vendor/subcontractor network, telephone follow-up to set appointments and personal visits to the customer facility. Contractor will also participate in local industry conferences and other trade events to develop relationships, promote the program and to introduce the Program to potential new customers.

v. Non-energy activities of program
Non-energy activities will include the development and installation of turn-key projects (with costs of development and implementation outside of this program). Identification of green house gas emissions reductions is an important non-energy component of the program.

vi. Non-IOU programs
This proposed industrial Program by its comprehensive design and independent contractor/holistic approach is able to incorporate unlimited opportunity in order to maximize energy use optimization and trends brought on by market focus. A big factor in this ability to incorporate opportunities is the ability to satisfy the industrial customer's requirements to manage energy costs and to prepare to report climate change actions.

Effectively promoted energy efficiency should fit as the resource of first choice for meeting California's energy needs. Energy efficiency is the least cost, most reliable and most environmentally sensitive resource and minimizes contribution

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to climate change. These are the trends and initiatives of today and the future that will be addressed by this program.

The proposed Program also addresses concerns of the industrial market segment in what appears to be difficult economic times in the near term. Industrial facilities are being taxed even more to maximize efficiency in all phases of their operations. Energy efficiency is an excellent opportunity to contribute to overall efficient operations and help these companies survive the current economic climate.

vii. CEC work on PIER
Not applicable to this program.

viii. CEC work on codes and standards
Not applicable to this program.

ix. Non-utility market initiatives
Not applicable to this program.

c. Best Practices:

The program design incorporates various best practice elements. Specific items include:

- Close coordination with Company personnel,
- Working as a team with the industrial customers,
- Working with specialists in technologies (such as compressed air), who are actively involved with developing best practices in their field, as subcontractors,
- Monitor development in other technical areas to stay ahead of the curve in the latest best design and operating practices,
- Measurement, monitoring and data collection of necessary points of operation to establish baseline energy use; and
- Provide a comprehensive Energy Efficiency/Demand Side Management (EE/DSM) solution that considers the customer's specific financial/investment parameters.

d. Innovation

Contractor's addition of Monitoring and Targeting services to other more traditional energy efficiency approaches also makes this program unique and innovative. Involving all levels of the organization from top management down to equipment operators in an energy-focused, continuous improvement process has been proven to yield tremendous improvements in energy efficiency as well as production efficiency. Providing the appropriate instrumentation (sub-metering), tying discrete energy use to levels of

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production, setting (and adjusting) target performance levels, and training of facility staff and management provide the tools for producing sustained energy reductions.

e. Integrated/coordinated Demand Side Management:

Contractor will practice cross marketing with other programs, most often cross-integrating energy efficiency and demand response opportunities on behalf of customers. Contractor's capability and familiarity with both energy efficiency and demand response programs will be beneficial to both Company and to end use customers. However, although the proposed Program does not specifically include Demand Response goals, Contractor will provide and assess demand response opportunities (TA/TI participation) and will conduct preliminary assessments for customers participating in the Program. Referral to applicable Company Demand Response Programs will also result in opportunities for customer participation.

Onsite generation is not anticipated to be a focus of this Program, however Contractor will identify circumstances under which onsite generation projects make sense to the customer.

Technologies within the program include:

Measure 1 - M&T - Continuous Improvement Process Operational Efficiency Improvements:

This measure implements a continuous improvement regimen at the facility.

Energy and demand savings accrue from the M&T system providing the facility personnel with almost real-time data relating the process energy consumption to production. Personnel are then able to discover why the energy consumption exhibited excursions both above and below a trend line average plot. Eliminating the causes of excursions of higher energy consumption and extending the causes of lower energy consumption excursions will result in a continuous trend of reducing energy consumption.

Measure 2 - Process Gas Efficiency – Boiler Economizer:

This measure adds an economizer to a boiler exhaust stack.

Energy savings accrue by recovering heat from high temperature exhaust gases leaving the boiler and using the heat to raise the temperature of the boiler feed water. This reduces the load on the burner and reduces gas consumption.

Measure 3 – Process Gas Efficiency - Regenerative Thermal Oxidizer:

This measure replaces an existing low efficiency thermal oxidizer with a new higher efficiency thermal oxidizer.

Energy savings accrue from a more efficient recovery of the heat required to oxidize the Volatile Organic Compounds (VOCs) in the incoming exhaust stream from the process.

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Measure 4 - Process Efficiency Improvements:

This measure replaces existing low-efficiency thermal processes with new higher efficiency processes and/or optimizes operation of the process.

Energy savings accrue from a more efficient recovery of the heat required in the process by a regenerative operation. For example, beverage processing frequently requires heating the product to pasteurize it and then cooling it for storage. This heating and cooling process lends itself to recover heat regeneratively. The cold product entering the pasteurizer is heated by the hot product leaving the pasteurizer and the hot product leaving the pasteurizer is cooled by the cold product entering the pasteurizer. More than 91% of the total energy required to heat and cool the product can be recovered via the regenerative heat exchangers.

Measure 5 - Other Mechanical – Variable Frequency Drives (VFDs):

This measure installs VFDs on fans. The measure will permit the fan to operate under one of two scenarios.

The first scenario occurs if the fan serves a variable load but delivers constant volume, a control system will be incorporated into the measure that will sense the load and vary the fan speed to meet the load. This will reduce the fan energy consumption by the cube of the fan speed.

The second scenario occurs if the fan serves a constant load but the fan discharge is throttled to establish a fixed flow at less than the fan design point. The VFD will permit opening the discharge damper and reducing the fan speed to meet the flow requirements without throttling. Savings will accrue at the difference between the throttled fan power and the reduced speed power.

Measure 6 – High Bay Fluorescent Fixtures:

This measure replaces existing high bay metal halide light fixtures with energy efficient fluorescent high bay fixtures.

The energy and demand savings accrue from the reduced fixture wattages.

Measure 7 – High Bay Fluorescent Fixture Occupancy Sensors:

This measure adds occupancy sensors to some or all of the new energy efficient fluorescent high bay fixtures installed in the previous measure.

The energy savings (no demand savings) accrue from the reduced fixture operating hours.

Measure 8 – Compressed Air - Comprehensive Compressed Air Retrofit:

This measure evaluates the complete compressed air system and upgrades the system on both the supply and demand sides to reduce energy consumption.

Energy and demand savings accrue from the improved performance of the new system.

f. Integration across resource types (energy, water, air quality, etc):

Not applicable to this program.

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g. Pilots:

Not applicable to this program.

h. EM&V:

SDG&E is proposing to conduct market assessment/characterizations and process evaluations by market segments. Within each of these evaluations, a portion of the research will be assigned to the third parties involved to both ensure that the third party programs are being run efficiently and that their integration to the portfolio is effective.

7) Diagram of Program:

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model:

The third party is an implementation channel and is included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

2009-2011 Energy Efficiency Programs Comprehensive Manufactured and Mobile Home Program Implementation Plan

- 1) Program Name: Comprehensive Manufactured and Mobile Home
Program ID Number: TBD
Program type: Third-Party Program
- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Residential					
	3P-Res02 - Comprehensive Mobile Home (SW)	1,023,256	433,268	5,445,074	0	6,901,598
	TOTAL:	\$ 1,023,256	\$ 433,268	\$ 5,445,074	\$ -	\$ 6,901,598

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Residential			
	3P-Res02 - Comprehensive Mobile Home (SW)	558,587	749	13,616
	TOTAL:	558,587	749	13,616

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for Source Programs has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Comprehensive Manufactured and Mobile Home Program Implementation Plan

a) Describe program

The residential Comprehensive Manufactured and Mobile Home Program were designed to complement SDG&E's Residential Energy Efficiency Portfolio by reaching manufactured and mobile home customers. This is a targeted market that is not reached by statewide mass-market programs, yet which shows rich potential for cost-effective energy and demand savings. This Program has been offered as a third-party program since 2002 and has been one of the most reliable and dependable programs in delivering energy savings, with a high customer satisfaction rating.

Manufactured homes are defined as factory built, pre-fabricated housing, mobile homes, homes within mobile home type communities. This sector does not include traditional homes built entirely at the construction site.

b) List measures

This Program provides the following energy efficiency measures:

Measure	Incentive (per Unit)
AC Diagnostic & Tune-up ²	\$179.89
Duct Test & Seal	\$349.97
Water Heater Pipe Wrap	\$32.00
ENERGY STAR® Exterior Hardwired Fluorescent Fixtures	\$49.49
ENERGY STAR® Interior Hardwired Fluorescent Fixtures	\$55.41
Interior ENERGY STAR® Screw-In CFL 14W	\$8.65
Interior ENERGY STAR® Screw-In CFL 23W	\$10.93
Exterior ENERGY STAR® Screw-In CFL 14W	\$8.65
Exterior ENERGY STAR® Screw-In CFL 23W	\$10.93
Low-Flow Faucet Aerator	\$9.58
Low Flow Showerhead or Shower Start	\$39.95
Common Area Occupancy Sensor	\$79.00
Common Area ENERGY STAR® Exterior Hardwired Fluorescent	\$47.99
Common Area ENERGY STAR® Interior Hardwired Fluorescent Fixtures	\$55.41
Common Area Interior ENERGY STAR® Screw-In CFL 14W	\$8.65
Common Area Interior ENERGY STAR® Screw-In CFL 23W	\$10.93
Common Area Exterior ENERGY STAR® Screw-In CFL 14W	\$9.52
Common Area Exterior ENERGY STAR® Screw-In CFL 23W	\$10.93
Common Area T-8 or T-5 Lamp and Electronic, 2-lamp, 4-foot fixture	\$43.00
Common Area T-8 or T-5 Lamp and Electronic, 4-lamp, 4-foot fixture	\$59.00
Vending Machine Controller for Cold Drink Machine	\$296.00
Vending Machine Controllers	\$146.00
LED Exit Sign	\$51.00

c) List non-incentive customer services

² Savings from Climate Zone 7, 10 and 14 averaged together Page 12 of 142

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The Contractor or Contractor’s certified technicians will complete a walkthrough of the home with the customer, and provide an energy efficiency brochure with energy savings tips and information on other Company and California Public Utility Commission energy efficiency programs.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and

2009-2011 Energy Efficiency Programs Comprehensive Manufactured and Mobile Home Program Implementation Plan

that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

There are many factors leading to market failures and barriers for the mobile home market such as cost effectiveness, split incentives, park management directives, income, and language. In addition, there are a limited number of contractors serving this market segment in part because of the limited degree to which residents take advantage of programs due to age, language, economic, or educational barriers. Furthermore, many of the tenants are senior citizens, on a fixed-income and many times not physically able to install measures themselves.

The Program has been designed to provide a comprehensive energy program to manufactured and mobile home customers in the Company service territory, collaborating with local communities within this service area to maximize service to citizens of their cities and towns.

Barrier	Solution
Lack of consumer information about energy efficiency benefits	The Contractor will educate the home occupant about the energy efficiency opportunities available to them.
Split incentives (between owners/landlords and tenants)	
Language: Primary language spoken is other than English	The Contractor's outreach associates and technicians are multi-lingual, speaking English, Spanish, Hungarian, Tongan, Russian, Samoan, Navajo, Italian, Portuguese, French, German, and Czech.
Income: Income levels less than 400% of federal poverty guidelines	This Program is directed at manufactured and mobile homes, which are often occupied by lower income customers.

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Housing Type: Multi-family and mobile home tenants	This Program is specifically geared towards manufactured and mobile homes in order to reach a sector of the population often overlooked by traditional energy efficiency programs.
Homeownership: Tenants (renters)	

**2009-2011 Energy Efficiency Programs
Comprehensive Manufactured and Mobile Home
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d) Quantitative Program Targets:

Table 5

Comprehensive Manufactured and Mobile Home Program	Program Target by 2009	Program Target by 2010	Program Target by 2011
Duct Test and Seal	1,325	1,325	1,325
AC Diagnostic and Tune-up	2,750	2,750	2,750
Low-Flow Faucet Aerator	6,000	6,000	6,000
Low Flow Showerhead	2,000	2,000	2,000
Energy Efficient Shower Start	1,500	1,500	1,500
Water Heater Pipe Wrap	1,000	1,000	1,000
Interior ENERGY STAR® CFL 14 watts	2,000	2,000	2,000
Interior ENERGY STAR® CFL 23 watts	25,000	25,000	25,000
Interior ENERGY STAR® Hardwire Fixture (30-36 watts)	6,000	6,000	6,000
Common Area Occupancy Sensor Wall Mounted	300	300	300
Exterior ENERGY STAR® CFL 14 Watts	1,000	1,000	1,000
Exterior ENERGY STAR® CFL 23 Watts	2,000	2,000	2,000
Exterior ENERGY STAR® Hardwire Fixture 18 Watts	5,000	5,000	5,000
Common Area Interior ENERGY STAR® CFL 14 watts	1,000	1,000	1,000
Common Area Interior ENERGY STAR® CFL 23 watts	2,000	2,000	2,000
Interior ENERGY STAR® CFL Fixture Common (30-36 Watts)	300	300	300
Common Area Exterior ENERGY STAR® CFL 14 Watts	500	500	500
Common Area Exterior ENERGY STAR® CFL 23 Watts	1,000	1,000	1,000
Common Area Exterior ENERGY STAR® CFL Fixture 18 watts	500	500	500
Common Area T-8 or T-5 Lamp and Electronic, 2-lamp, 4-foot fixture	500	500	500
Common Area T-8 or T-5 Lamp and Electronic, 4-lamp, 4-foot fixture	500	500	500
Common Area Vending Machine Control Cold Drink Machine	250	250	250
Common Area Vending Machine Control Uncooled Snack Machine	250	250	250
LED Exit Sign	250	250	250

Note: Values provided represent yearly targets.

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e) Advancing Strategic Plan goals and objectives:

The Comprehensive Manufactured and Mobile Home Program supports the California Long Term Energy Efficiency Strategic Plan by:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
In targeting and developing deeper knowledge of the mobile home hard to reach segment, program supports statewide segmentation research efforts.	Low-Income	By 2020, all eligible customers will be given the opportunity to participate in the LIEE program.	1.1: Strengthen LIEE outreach using segmentation analysis and social marketing tools.
By targeting the underserved mobile and manufactured home segment, the program is able to provide services to a larger number of low and middle-income residential customers.	Low-Income	By 2020, all eligible customers will be given the opportunity to participate in the LIEE program.	1.3: Improve program delivery

6) Program Implementation

a) Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party Program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

While this Program is directed at the SDG&E service territory, related manufactured-mobile home retrofit programs are also operating in the Southern California Edison, Southern California Gas, and Pacific Gas & Electric service territories. Additionally, the Program is designed to complement other investor-owned utility Programs available to manufactured and mobile home owners, property owners and managers. The program design is expected to maximize energy efficiency opportunities by promoting electricity

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savings, as well as therm and water savings. This Program will provide new and measurable direct savings via the installation of energy efficient measures.

b) Program delivery and coordination:

i. Emerging Technologies program

The Contractor and some of its Representatives will collaborate with the CPUC Energy Division and utility staff to provide updated input on energy savings data, including emerging technologies, into Database for Energy Efficiency Resources. If new measures and/or energy savings data can be identified, they would be submitted for consideration to the program manager, in the form of work papers that would support the rationale for the new measure.

ii. Codes and Standards program

Not applicable to this program.

iii. WE&T efforts

The Comprehensive Manufactured and Mobile Home Program supports the California Workforce Education & Training Plan by: (1) Providing installation of measures by certified technicians that focus on energy efficiency and demand side management (DSM); (2) Offering necessary training and certification for technicians to develop new skills and knowledge; and (3) Contractor provides educational material and training directly to customers or residents so that ongoing energy savings are realized.

Additionally, Contractor is able to provide training (via a Company established Web cast or in person at a Company facility) on their Program to Company's customer field representatives at the event.

iv. Program-specific marketing and outreach efforts (provide budget)

This Program will deploy a creative marketing and screening process (face-to-face visits with park owners and managers combined with direct mail and telephone campaigns) to reach residents of manufactured and mobile home park sites and common areas. The marketing strategy will focus on complementing the overall Company residential program portfolio. Contractor or Contractor's Representatives will conduct specific marketing activities that seek to educate the customers, as well as the park owners and managers, on the variety of energy efficiency programs available to them as utility customers and why this Program is specifically targeted to serve their market segment. Other marketing activities will include working with local community organizations, direct mail pieces, and advertisement in magazines.

To achieve higher level of awareness on the benefits of energy efficiency, the Contractor will develop partnership arrangements between utilities and local governments. This Program is designed to work smoothly with a number of

2009-2011 Energy Efficiency Programs Comprehensive Manufactured and Mobile Home Program Implementation Plan

community organizations and associations, including mayors and city councils in combining efforts to promote energy efficiency within numerous communities.

- v. Non-energy activities of program
Not applicable to this program.

The Comprehensive Manufactured and Mobile Home Program, in addition to the energy savings activities, also provides an enormous and collective boost to a segment of the population that is ill-equipped, because of age, language or the complexity of installing these measures, to take necessary actions to install such measures at their homes. In the absence of this Program, this segment of the population and associated energy savings could be overlooked.

- vi. Non-IOU Programs

The program helps support the *Western Climate Initiative* with the utilization of advanced energy efficient technologies and reduces the carbon footprint created by single family and multi-family residences in California. In addition, this Program meets important objectives by reducing greenhouse gas emissions, especially CO₂, NO_x, and PM-10 emissions.

- vii. CEC work on PIER

The Program utilizes Title 24 compliant energy efficient measures, including gas and water saving measures. As part of its implementation, an attempt is made to encourage the installation of high performance energy saving goods and services in conjunction with educating the customers (users) on how to optimize the measures for maximum comfort and energy savings. To meet this objective, this program is designed to work smoothly with a number of community organizations and associations, including mayors and city councils in combining efforts to promote energy efficiency within numerous communities.

- viii. CEC work on codes and standards

Codes and standards are satisfied in various ways in this Program. The performed services and installed goods are high quality and documented energy efficiency measures. The services and installations are conducted by certified and trained technicians. The Contractor's technicians are trained to maintain a high standard of quality installations. Additionally, the Contractor will complete an evaluation and assessment of the residence using an employed "Comfort Energy Consultant." The quality installations may also be remotely verified via "Smart" systems maintained by SDG&E.

Contractor is expected to follow various codes and standards and be an approved and certified ENERGY STAR® Partner. The materials Contractor utilizes are ENERGY STAR® rated. Low-Flow Shower Heads and Aerators are both ENERGY STAR® rated materials. Contractor has a current HVAC contractor's license and technicians follow generally accepted industry standards and

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procedures as it completes the work at each unit. The following are the specification standards for the Verified Duct Test & Seal.

Duct Test & Seal	
Estimate Total System Airflow	Default Method-Systems with A/C 340 cfm per ton of cooling capacity or with systems with heat only 18.5 cfm/Ftuh output
Perform Duct Pressurization Leakage Testing	Tape off all registers and connect duct blaster
Estimate Total System Duct Leakage	Airflow X .15% = Target Example 4 ton unit 340 X 4 = 1360 X .15 = 204(target)
Secondary Target	When ducts are inaccessible or there is a large amount of duct leakage, a secondary target is required by reaching 60 cfm X tonnage = reduction Example Duct Leakage 800cfm on a 4 ton system you would need to get 60X4=240cfm (240 cfm reduction to get 2nd target)

A/C Tune Up	
Superheat Method	For the Superheat method, the target superheat is calculated with the wet return temperature (gotten through the return temperature) and the outside temperature. The difference between the target superheat and the actual superheat is called the charge difference, which has to be between -5 and +5. When this difference is greater than +5, means that the system is undercharged and refrigerant needs to be added. By the other hand, when this difference is lower than -5, means that the system is overcharged and it is necessary to take refrigerant out.
Subcooling Method	For the Subcooling method, the target subcooling is provided by the AC manufacturer. The difference between the target subcooling and the actual subcooling is also called the charge difference, which has to be between -3 and +3. When this difference is greater than +3, means that the system is overcharged and it is necessary to take refrigerant out. By the other hand, when the difference is lower than -3, means that the system is undercharged and it is necessary to add refrigerant.

Water Measures		
Aerators	Niagara	1.80 GPM
Low Flow Showerhead	Niagara	1.80 GPM Massage Spray
Dwelling Unit Lighting Installations		
14-23 watt ENERGY STAR® Labeled CFL (Exterior)	TCP or Conservation Services	ENERGY STAR® UB20 - 2700K or equivalent
14-23 watt ENERGY STAR® Labeled CFL (Interior)	TCP or Conservation Services	ENERGY STAR® UB20 - 2700K or equivalent
13-18 watt ENERGY STAR® Labeled Fluorescent Fixture (Exterior)	TCP or Conservation Services	ENERGY STAR® 5631BCP-2700K or equivalent
14-18 watt ENERGY STAR® Labeled Fluorescent Fixture (Exterior)	TCP or Conservation Services	ENERGY STAR® 55818BPC-2700K or equivalent
30-36 watt ENERGY STAR® Labeled Fluorescent Fixture (Interior)	MaxLite or Conservation Services	Ceiling Fix-SKF30SMCW or equivalent
Common Area Lighting		

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Installations		
14-23 watt ENERGY STAR® Labeled CFL (Exterior)	TCP or Conservation Services	ENERGY STAR® UB20 - 2700K or equivalent

ix. Non-utility market initiatives
Not applicable to this program.

c) Best Practices:

The Program utilizes an innovative and comprehensive marketing and implementation program designed to maximize the participation of mobile home occupants and to optimize energy efficiency at each property.

The Program has now worked continuously statewide for over six years. There are strong processing and procedural economies of scale that will continue to contribute to more efficient servicing of mobile home customers, while avoiding duplication and confusion in the market place. Mobile home park communities are well aware of the availability of this Program within Company service territory. Additionally, the Contractor is expected to actively work with a member of mobile home associations and be involved in their conferences and seminars.

The 2009-2011 Program adopted valuable lessons from prior mobile home programs for maximum effectiveness in the marketplace. This Program has significant innovative features, including:

- The introduction of 100% quality at every installation site using technology and full-time quality supervisors to maximize customer satisfaction and production quality.
- The unique marketing approach to optimize market saturation in working with park owners, managers and residents.
- A direct install feature that removes the barriers for installation of highly effective Energy Efficiency measures.
- Regular in-house inspections of work completed and also regular inspections with the Company inspectors to review the work completed.

The unique marketing approach and proven outreach experience combined with a direct install approach of energy efficiency measures to the hard-to-reach market provides valuable therm savings, as well as kW, kWh and water savings. The Program effectiveness is enhanced by eliminating the financial barriers in the market by providing energy efficiency upgrades at no cost to the customers. Park owners and/or property managers are able to participate in energy efficiency opportunities along with the residents and all parties are educated on the energy savings achieved through this program and will be offered information regarding the importance of energy savings and no- and low-cost measures that customers can implement independently.

2009-2011 Energy Efficiency Programs Comprehensive Manufactured and Mobile Home Program Implementation Plan

d) Innovation:

One of the most innovative building blocks in the Comprehensive Manufactured and Mobile Home Program is the construction of a master database organized by mobile home park which will include each unit in the park. The database will be loaded with the SDG&E customer database information (under a non-disclosure agreement) and a history of work that has been completed at this site. Then, once marketing is conducted and a customer schedules an appointment, the scheduler simply checks the box and time for the technician to do the work. When the work is completed, the technician will confirm that all work completed is captured in the database and check a box, indicating the work is ready for billing. This process generally eliminates data entry and the possibility for data entry errors to customer information. It also allows the database to sync up 100% with the SDG&E database during the invoice process.

e) Integrated/coordinated Demand Side Management:

This Program offers an innovative outreach and consumer education regarding the installed measure as well as additional energy efficiency programs available including demand response and demand-side management options. This Program includes a basic assessment and recommendations which include many relevant energy management opportunities which the customer may take advantage of including advice on energy efficiency, demand response, distributed generation, Permanent Load Shifting, solar rebates, and other applicable measures. The installed technology is a proven DSM measure which is energy efficient and reduces energy consumption.

f) Integration across resource types (energy, water, air quality, etc):

All resources are positively impacted due to the comprehensive approach of this Program. This Program includes measures which are highly efficient and reduce consumption of electrical energy, gas energy, water consumption and water waste. The ability to conduct multiple measures at each residence allows this program to concurrently target many different savings areas.

g) Pilots:

If new measures and/or energy savings data can be identified, they would be submitted for consideration to the program manager, in the form of work papers that would support the rationale for the new measure.

h) EM&V:

SDG&E is proposing to conduct market assessments/characterizations and process evaluations by market segment. Within each of these evaluations, a portion of the research will be assigned to the third-parties involved to both ensure that the third-party programs are being run efficiently and that their integration to the portfolio is effective.

2009-2011 Energy Efficiency Programs Comprehensive Manufactured and Mobile Home Program Implementation Plan

As was mentioned earlier, one of the key innovative activities that is taking place on an on-going basis is in the independent review of program evaluation (measured savings) and in the research and development of emerging technologies or new cost effectiveness measures that can serve the Manufactured-Mobile home community. Such review will assist the Company to determine if the Program is meeting its goals and objectives. Contractor and its Representatives collaborate through the CPUC Energy Division and utility staff to provide updated input on energy savings data into DEER.

7) Diagram of Program:

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model:

The third-party program is an implementation channel and is included in the appropriate market segment logic models. No specific logic model for a particular third-party program has been developed. However, the following summary of the Program's logic is provided.

Comprehensive Manufactured/Mobile Home Program Theory and Logic

Inputs or Outputs	Description	Expected Short-Term Outcome	Expected Long-Term Outcome
Input	Resources: (1) Design Program (2) Develop Implementation Plan (3) Set Benchmarks (4) Monthly Accountability and Reporting (5) Assure that Financial Resources are available for sufficient operating capital (6) Allocate Office Team, Management, Production Team and Quality Control (7) Have a good interface and communication with Company	These resources will allow the program to get launched in an organized and productive manner that sets up benchmarks and monitors program progress, quality and success	These resources ultimately will contribute to the successful implementation and completion of this program, achieving the program energy savings and goals.
Input	Activities: (1) Have team planning session with all partners and associates. (2) Kick-off marketing and installation. (3) Do training with installers and technicians on processes and equipment. (4) Kick-off quality control program and review. Technicians installations and	Contractor would expect to see from the implementation of these activities that the program comes on line on a timely basis, is meeting program benchmarks on a monthly basis, allowing for a regularly evaluation and progress report together with Company. There would be no surprises with this program. From the customer	By implementing these activities Contractor should have steadily work toward the successful completion of this program on or ahead of time.

**2009-2011 Energy Efficiency Programs
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Inputs or Outputs	Description	Expected Short-Term Outcome	Expected Long-Term Outcome
	<p>customer surveys.</p> <p>(5) Monthly Reporting of Program Progress. Regularly confer with Company on program progress, opportunities and challenges.</p> <p>(6) Complete the Final Report with Program Outcomes.</p>	<p>surveys Contractor will also be able to assess customer satisfaction and take actions to enhance program.</p>	
Input	<p>Market Actors:</p> <p>(1) Outreach personnel.</p> <p>(2) Marketing Research and Direct Mail Manager</p> <p>(3) Customer Service.</p> <p>(4) Liaison with property managers and owners.</p> <p>(5) Community Outreach.</p>	<p>With the engine of Contractor' marketing and outreach personnel connecting with communities, property owners and managers, Contractor will be able to explain the benefits of the program and market it to the end users and customers</p>	<p>These individuals, coming together, provide the targeted market customer base to where the energy savings serves will be provided.</p>
Output	<p>Outreach contacts Made: 100 parks</p> <p>Customers reached through flyers and outreach: 25,000</p> <p>Installations complete: 13,000</p> <p>Energy Tips Brochure Distributed: 15,000</p>	<p>The month-by-month report will show the systematic realization of the program goals and objectives</p>	<p>The successful completion of the program goals and objectives as outlined in this proposal.</p>

2009-2011 Energy Efficiency Programs M2M Hot Water & HVAC Controls for Restaurants Program Implementation Plan

- 1) Program Name: M2M Hot Water & HVAC Controls for Restaurants
 Program ID Number: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes04 - M2M Hot Water & HVAC Controls for Res	711,687	195,038	2,489,681	0	3,396,406
	TOTAL:	\$ 711,687	\$ 195,038	\$ 2,489,681	\$ -	\$ 3,396,406

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes04 - M2M Hot Water & HVAC Controls for Res	0	0	717,402
	TOTAL:	0	0	717,402

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs

M2M Hot Water & HVAC Controls for Restaurants

Program Implementation Plan

a) Describe program

The M2M Restaurant HVAC and Hot Water Program will address two of the largest users of energy in restaurants. The Program will take a comprehensive approach to the target sector and reduce energy usage by controlling Heating, Ventilating, and Air Conditioning (HVAC) and water heating systems in an integrated manner.

b) List measures

HVAC

The M2M Restaurant HVAC and Hot Water Program will manage all of the heating and air conditioning exhaust systems together in an integrated manner. Access to the time-temperature schedules will be via the Internet, which will discourage tampering with on-site thermostat settings. Programming logic will monitor all conditions necessary to adjust schedules and automatically send reports about maintenance and alarm conditions. The Program will reduce spike loads to a minimum by preventing multiple compressors from starting at the same time. The Program will also reduce peak load by staging each compressor or system properly. By monitoring the exhaust and makeup air systems, the Program will keep the exhaust hood and makeup air systems in balance. If the system cannot be automatically balanced, the condition will be reported to maintenance personnel.

HOT WATER

The Program will install a hot water control device that can be accessed only by an Internet interface. The customer will be able to set time-temperature schedules for each day of the week and easily change them to accommodate special occasions. The device will also transmit, via wireless networks, system data that is used to monitor and notify the customer of system conditions. Data is available for viewing, and if problems are noted, this interface can provide important data for repair vendors. The Program's monitoring also provides notification of system anomalies, such as water leaks (faucets that are broken or left open and broken underground water pipes) that would normally go undetected.

The Program will provide time-temperature devices that respond to current and past conditions and integrate user input and digital sensors to provide accurate control of HVAC and hot water systems. The system will use wireless communication technology to gather data from the devices and a web-based interface and database technology provide for transmission, storage, and access to data history and equipment control. Internet, cell phone, and email technology will be used to provide easy access to notification reports.

The data collected by the devices and transferred through wireless transmission will include:

- Indoor air temperature,
- Outside Air (OSA) temperature,

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- Heater Run Time,
- Compressor Run Time; and
- Boiler Pump Run Time.

By providing this data in reports to the customer, the Program will maintain a high level of savings and assure proper on-going operation of the monitored equipment.

Measure	Incentives (per unit)
DHW Control	\$1,575
HVAC Control	\$6,092.50

c) List non-incentive customer services

A specifically designed web site will be available for contractors and customers. The contractors' section will contain:

- Online technical training in installation, maintenance, and operation of the controls,
- General information on energy efficiency programs, and
- Workshops, marketing materials and advertising information.

The consumers' section will include:

- Savings calculators,
- Basic systems operation instructions,
- Lists qualified contractors,
- Description of the program in particular; and
- General information on energy efficiency programs.

The program will include training of maintenance and vendor technicians to ensure proper installation and operation of the energy saving devices.

News and content on this site will be in Really Simple Syndication (RSS) format available to RSS-aware programs that check the feed for changes and react to changes in an appropriate way. Free subscription will provide for future contact information.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

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Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

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Restaurants that have HVAC and hood exhaust systems are prone to wasting energy because they have many small package units, (one per zone rated between 2 and 12 tons of cooling for a total of between 20 and 50 tons) and an exhaust and makeup air system that is prone to be unbalanced. This sector generally uses electricity for cooling and gas for heating. Some restaurants have time-clock or set-back thermostats, but other facilities have only flat-line heating and cooling thermostats. Hood exhaust systems are required and are sized between 5,000 to 10,000 CFM. Most of these systems have makeup air system that will provide up to 80% of the exhausted air volume.

Few restaurants check the balance of the exhaust hood and makeup air systems. If they are not properly balanced then the exhaust system will draw conditioned air from the restaurant. As an example: If the makeup air system for a 10,000 CFM exhaust hood is only providing 5,000 CFM the additional 5,000 CFM will come from the restaurant, which is conditioned air, either cooled or heated. This is 3,000 CFM more than, if the system were monitored and balanced. 3,000 CFM is equivalent of a 7.5 ton cooling unit, every minute of every hour the hood is on. Many restaurant HVAC systems also operate when not needed, have temperatures set too low for cooling or too high for heating, and allow compressors and/or fans to start simultaneously.

Another high use of energy in restaurants is hot water heating. Restaurants use between 20 and 30 therms per day to heat water for their dishwashers. Hot water boilers with holding tanks or water heaters provide the hot water. The hot water generally consumes 40% of the total gas for the restaurant. This portion of the gas bill can be reduced up to 50% by controlling the water temperatures. Maintaining hot water temperature at the proper level during operating hours and reducing it to 104 degrees when the restaurant is closed will reduce stand-by heat loss to a minimum.

Removing this inefficiency in the restaurant HVAC and hot water systems is achieved by utilizing the state of the art control devices to keep systems in balance, to set high and low boundaries on temperature settings, and prevent simultaneous equipment set-up.

d) Quantitative Program Targets:

Table 3

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
HVAC Controls Installed	112	N/A	N/A
DHW Controls Installed	44	N/A	N/A

Notes: Values provided represent yearly targets. This is a one-year program.

e) Advancing Strategic Plan goals and objectives:

This Program supports the Strategic Plan in the following manner:

- Targets major uses of energy for the restaurant segment and thus supports meeting the commercial sector goals (3. Commercial Sector, Strategy 3)

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- Monitors and reports system performance for identification of energy savings opportunities and use in maintenance of the monitored equipment (6. HVAC, Strategies 1 & 2)
- Provides installer training and information and data for operators is provided on website (9. Workforce Education and Training, Strategy 4)
- Uses advanced controls by using wireless technology and multiple data sources (11. R&D, Strategies 2, 4, and 5)

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. To the extent that this program may share common elements with the IOU's other third party programs, core, or third party programs in other IOU service areas; the Program will strive to coordinate similar activities.

b. Program delivery and coordination:

- i. Emerging Technologies program
Not applicable to this program.
- ii. Codes and Standards program
Not applicable to this program.

iii. WE&T efforts

In addition, this Program includes emphasis on education. Education will be provided at three levels, installation, maintenance, and use management. Many energy efficient controls and products are removed due to a lack of understanding the product. Monitoring of systems performance will alert the removal of products from systems but the education of vendors on the installation and operation will stop the removal and improve the system performance with proper use of products. Understanding the product will encourage vendors to provide the product to all of their customers to provide better service at a lower cost. Managers and decision makers will learn how to use this technology to better

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manage systems and properties, make their equipment last longer and put more money on the bottom line.

iv. Program-specific marketing and outreach efforts (provide budget)

Program implementation begins with a continuation of marketing activities in 2008 and continuing to contact all hotels, motels, and restaurants. Contractor will continue presentations at trade organization meetings, advertising in the trade journals, and showing the product and program at trade shows. Contractor will build upon the momentum of 2008 that generated much interest and exposure. In addition, Contractor will continue to contact the HVAC equipment manufacturers to make them aware of the intent, along with the HVAC wholesale suppliers and vendors. Contractor will improve training to all on site personnel, service technicians, and manufactures' representatives as an added feature of its ongoing training programs.

After a customer has agreed to participate in the program and signed the contract, Program staff will verify eligibility and then conduct a pre-inspection to verify the site will qualify for the program. The program-approved contractor will then install the measures. All completed projects will be post-inspected by Program staff. The devices will then begin data collection to measure and verify savings. In addition:

- The utility will issue incentive payments directly to Contractor, and Contractor will be responsible for payment to each installation contractors.
- All program contractors have agreed to offer program-approved warranties on parts and labor of all installed equipment.
- The program will use its existing quality control procedures to ensure high quality workmanship practices in the installation of program measures and to ensure quality educational services have been provided to the end-use customers. The program will conduct up to 100% random sample inspections.
- The Program will provide reporting consistent with California Public Utility Commission (CPUC) requirements.

v. Non-energy activities of program

Not applicable to this program.

vi. Non-IOU Programs

Not applicable to this program.

vii. CEC work on PIER

Not applicable to this program.

viii. CEC work on codes and standards

Not applicable to this program.

ix. Non-utility market initiatives

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The success of this Program with Company can be used as a program study that not only presents an energy efficiency opportunity, but also reflects the growing market moving towards reducing energy cost and the green consideration of reduced carbon emissions.

c. Best Practices:

The Program design incorporates various best practice elements. Specific items include:

- Control devices optimize equipment performance,
- Use of wireless data devices reduces install costs; and
- The monitoring of the program and results will provide Company with validation and verification of the effectiveness of the program.

In addition, this Program includes emphasis on education. Education will be provided at three levels, installation, maintenance, and use management. Many energy efficient controls and products are removed due to a lack of understanding the product. Monitoring of systems performance will alert the removal of products from systems but the education of vendors on the installation and operation will stop the removal and improve the system performance with proper use of products. Understanding the product will encourage vendors to provide the product to all of their customers to provide better service at a lower cost. Managers and decision makers will learn how to use this technology to better manage systems and properties, make their equipment last longer and put more money on the bottom line.

d. Innovation:

This Program will provide the tools to properly manage restaurant hot water and HVAC systems and monitor their performance and consumption. Wireless communication technology along with web-base Internet interface and database technology provide for transmission, storage and access to data history and equipment control. Internet, cell and email technology provide for easy access to notification reports. The data collected through wireless transmission will consist of supply and return air temperatures, OSA temperature, Heater Run Time and fan run times for HVAC systems and Hot Water Supply Temperature, Heater Run Time and pump Run Time for hot water systems. These technologies have been brought together to provide a system that will allow for easy management and control of domestic hot water and HVAC systems spread throughout the Company territory.

These measures meet many of the objectives stated in the Energy Efficiency Policy Manual Version 3.

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“Commission and State energy policy, as expressed in the Energy Action Plan and reaffirmed in Decision (D.) 04-12-048, make energy efficiency the utilities’ highest priority procurement resource. In other words, cost-effective energy efficiency should be first in the “loading order” of resources used by the utilities to meet their customers’ energy service needs. The Governor’s and the state’s policies also seek to reduce the environmental impact (including the greenhouse gas emissions) associated with the state’s energy consumption, to protect the public’s health and safety. Energy efficiency is a critical part of the state’s strategy to achieve these goals.”

“The Commission’s overriding goal guiding its energy efficiency efforts is to pursue all cost-effective energy efficiency opportunities over both the short and long term.”

“The deployment of new and improved energy efficiency products and applications can help sustain or increase current saving yields from program dollars and serves to create a new generation of technologies available to tap the cost-effective potential of energy efficiency in ways we cannot predict today. In order to provide higher levels of bridging between available upstream innovations and the marketplace, annual funding for emerging technologies programs should increase. Program Administrators should work with the California Energy Commission (CEC) and other appropriate stakeholders to include appropriate levels of funding to demonstrate and commercialize emerging technologies funded through the California Public Interest Energy Research (PIER) program and other sources that otherwise would not receive funding for pre-commercialization demonstration.”

e. Integrated/coordinated Demand Side Management:

Not applicable to this program.

f. Integration across resource types.

The savings in terms will result in the reduction of air pollution and contribute to the statewide goal of carbon footprint reduction.

g. Pilots:

Contractor began working with the Southern California Gas Company in 1998 on the Multi-Family Energy Program whereby one would install measure and controls and be paid on actual therms saved during the first year of operation. This multi-year program along with verification of saving became the Contractor basis for actively monitoring savings verification. Contractor has thousands of energy controllers in 17 states and it processes all web-based data on a minute-by-minute platform.

h. EM&V:

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The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program:

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model:

Third party programs are an implementation channel and are included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

2009-2011 Energy Efficiency Programs Healthcare Energy Efficiency Program Implementation Plan

- 1) Program Name: Healthcare Energy Efficiency
 Program ID Number: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes07 - Healthcare Energy Efficiency Program	70,807	171,612	0	0	242,419
	TOTAL:	\$ 70,807	\$ 171,612	\$ -	\$ -	\$ 242,419

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes07 - Healthcare Energy Efficiency Program			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Healthcare Energy Efficiency Program Implementation Plan

4) Program Description

a) Describe program

The Healthcare Energy Efficiency Program (Program) aims to deliver significant, measurable energy savings in one of the state's heaviest energy use sectors, healthcare. The Program was created to address the complex issues of the healthcare industry's hesitancy to adopt energy efficiency behaviors, initiate facility upgrades, and achieve cost-effective energy savings. This Program is currently offered in the SDG&E and SCE service territories.

Eligible Program customers will include:

- Hospitals, acute, outpatient, free-standing trauma centers or community clinics.
- Alcohol and detox rehabilitation centers or facilities, including residential;
- Psychiatric and counseling facilities;
- Medical and other healthcare-related office buildings and storage structures;
- Dental, eye-care, physical therapy offices and clinics;
- Convalescent hospitals and extended care facilities;
- Hospices and related facilities.
- Any facility that provides services to patients or clients that is eligible for Medicare, Medi-Cal, or county health insurance reimbursement.
- Facilities engaged in animal or veterinary care or services, and
- Other facilities within NAICS codes include 623220, 622210, 621420, 541940, 622310, 622110, 622310, 623210, and 621493.

This Program will be run by a team made up of Intergy Corporation, Mazzetti & Associates, and the Putnam Price Group. The following bullets outline the steps to program delivery and implementation:

- **Marketing Implementation:** The Program team will use a variety of marketing strategies including: a) the extensive network and communications channels already developed by the Contractor, b) new media tools to reach potential customers, and c) local contractors with established relationships with SDG&E healthcare customers.
- **Enroll customers:** As a targeted sector program effort, the Program's marketing efforts will be personal and extensive, while the technical approach will be focused on the whole building. Staff will thoroughly analyze each prospective site for energy efficiency, demand response, and renewable energy opportunities and encourage customers to pursue all cost-effective measures.
- **Install Energy Efficient Hardware and Projects:** The Program team will work with each client to complete the following tasks:
 - **Project Identification.** Program staff will coordinate project identification and comprehensive audits of targeted medical facilities. All projects, including those that are state-regulated will be evaluated.
 - **Project Review and Prioritization.** The review will identify the highest "value" incentive targets through pre-audit discussions.

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- **Detailed Audit.** Phase I and Phase II audits will be offered to customers to provide varying details related to potential energy saving project opportunities.
- **Project Approval.** All projects must meet program criteria, which will be finalized with SDG&E staff. The Program team will defer to the customer for contractor selection.
- **Project Implementation.** Qualifying retrofit projects will consist of deemed measures, calculated measures, and emerging technologies – all of which will be implemented in a comprehensive manner. Commissioning will also be completed with applicable retrofit projects.
- **Incentives Processing.** The incentive budget for 2009 is set at \$941,987.
- **Post-Installation Verification and Measurement & Evaluation Coordination.** After implementation is completed, 100% of the projects will be verified.
- **Remedy Installation Issues.**
- **Payment of Incentives.** The final incentive amount for each project will be determined by the program implementation team and will depend on project cost, financing options, and energy and demand savings.
- **Invoice and report completed projects:** Invoices will be sent to SDG&E on a monthly basis and based on tasks outlined in the “Scope of Work” document. On a monthly basis, or as stipulated by SDG&E, the Contractor will submit a Program Narrative, in the required format and comma-separated flat files, including all data elements specified.
- **Perform customer feedback surveys:** Surveys will allow participants to comment on the Program and the contractor. Surveys will be conducted either by email, mail or by telephone. The results of the survey will be entered into the database management tool.
- **Address and resolve customer issues:** The Program team will endeavor to resolve all customer complaints by responding to issues and/or complaints within ten business days.
- **Ramp down and close Program:** It is estimated that the Program will begin ramping down by October 2009. Timelines will be communicated to customers by mail and online. Any remaining customer issues will be followed up within 30 days of Program shut down. The Program website will be open for any remaining customer issues. The Program will extend service for one year on hardware warranty issues.
- **Submit Final Program Report:** After the Program shuts down, and all follow-up issues having been completed and resolved, Program staff will submit a final report that reviews the Program’s progress and accomplishments.

b) List technologies

The Program is a comprehensive retrofit program that will include the following measures:

- HVAC, appliance, and other upgrades;
- Comprehensive lighting;
- Building retro-commissioning;

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- Thermosorber absorber/heat exchangers;
- Boiler tune-ups;
- Steam traps;
- Pipe and tank insulation;
- Cool roofs;
- HVAC motor upgrades;
- Variable frequency drive motors – on VAV fans;
- Variable speed drives for chilled water loops;
- Variable speed drives for hot water loops;
- LED exit signs, and
- Server virtualization.

As a comprehensive program, there may be other emerging technologies available to customers that are not listed. For those, the program will provide complete technical documentation to the SDG&E technical staff. Audits will also identify demand response and renewable/solar energy projects; these potential projects will be communicated to SDG&E who will take these opportunities and work directly with the customer for evaluation and eventual adoption.

Measure	Incentives (per unit)
Lighting	\$0.07/kWh
Other Equipment	\$0.10/kWh
Air Conditioning & Refrigeration	\$0.15/kWh
Natural Gas	\$1.50/therm
Retro-Commissioning	Custom incentive up to \$0.10/sqft (investigation) and \$0.05/sqft (implementation)

c) List non-incentive customer services

The Program is a full-service, one-stop energy efficiency resource for healthcare customers. In addition to incentives, the Program also provides:

- Energy efficiency audits;
- Pre- and post-installation inspections, and
- Customer satisfaction surveys.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C

**2009-2011 Energy Efficiency Programs
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Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

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b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

**2009-2011 Energy Efficiency Programs
Healthcare Energy Efficiency
Program Implementation Plan**

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers

Healthcare facilities in California are confronted with complex barriers that prevent the adoption of energy efficiency practices and achievement of significant energy savings.

Some of these barriers include:

- **Financial.** The current economic situation and competing financial priorities, such as Senate Bill 1953 requiring seismic upgrades, prevent investment in energy efficiency. As additional hurdles, healthcare organizations face extreme pressure because of reduced reimbursement from government and insurance programs, rising costs for pharmaceuticals and new technologies, increased staff turnover, heavy regulatory requirements, and rising operational costs.
- **Relatively Low Cost of Energy.** It is estimated that energy costs may represent 40-60 percent of a hospital's total facility operating budget; however, this comprises only 1-3 percent of total institutional costs. With these levels, senior management generally has not implemented extensive energy efficiency retrofits or upgrades.

Barrier	Solution
Lack of financing for energy efficiency improvements	This program will cross-promote On Bill Financing as a way to reduce the capital outlay required for most energy efficiency projects. In addition, it will provide attractive incentives consistent with SDG&E's BID Program.

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a) Quantitative Program Targets

Table 3

Healthcare Energy Efficiency	Program Target by 2009	Program Target by 2010	Program Target by 2011
Obtain hospitals with multiple applications	2	N/A	N/A
Outreach to contractors	30	N/A	N/A
Forward demand response or solar opportunities found at target facilities	5	N/A	N/A
Conduct audits at medical office buildings or other non-hospital eligible customer facilities.	10	N/A	N/A

Notes: Values provided represent yearly targets. This is a one-year program.

b) Advancing Strategic Plan Goals and Objectives

This Program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
By using an audit-based approach to identify savings opportunities in healthcare facilities that will be undergoing retrofits due to seismic regulations, the program is innovatively developing tools and strategies to reduce energy consumption in commercial buildings	Commercial	50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.	2-5: Develop tools and strategies to use information and behavioral strategies, commissioning, and training to reduce energy consumption in commercial buildings.
In incorporating identification of demand response and renewable energy projects with energy saving opportunities, the program helps expand utility efforts to integrate the full range of DSM options into programs	Coordination	Deliver integrated DSM options that include efficiency, demand response, energy management and self generation measures, through coordinated marketing and regulatory integration.	1-3: Develop integrated DSM programs across resources, including energy, water, and transportation.

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6) Program Implementation

- a) Statewide IOU Coordination:
 - i. Program name
 - ii. Program delivery mechanisms
 - iii. Incentive levels
 - iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
 - v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
 - vi. Similar IOU and POU programs

The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

Although the Programs only been in SDG&E territory since 2008, it has been a successful program in SCE's territory since 2006. In 2009, the Program will continue in SDG&E and SCE territories and also launch in PG&E's territory. Offered statewide, this Program will coordinate across utilities to assure that healthcare organizations with facilities throughout the state can implement their energy efficiency efforts and work with one single point regardless of utility boundaries. Incentives and marketing materials will be customized per utility based on core program incentive rates and utility branding guidelines.

The objectives of the Program match the areas of emphasis the CEC identified in the 2008 CEC Energy Action Plan, in particular, "[t]o develop comprehensive, long-term strategies for sustainable energy efficiency savings to achieve the ultimate goal of making energy efficiency a way of life for Californians." The Program addresses this need by providing a single point of contact to healthcare facilities, which will be encouraged to undertake long-term plans and innovative energy efficiency and demand response projects. The Program will go well beyond simply paying an incentive by bringing technical expertise and design assistance to projects at their earliest stage of inception. In many cases, this early involvement will be the primary driver causing adoption of a higher efficiency alternative. All types of energy efficiency projects will be covered, including retrofits, retro-commissioning, and gas saving measures.

The Program will also coordinate with the California Office of Statewide Health Planning and Development, which regulates many of the construction projects conducted at healthcare facilities. The Program will work with the healthcare facilities to identify which state projects have energy saving opportunities and incentivize those projects.

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b) Program delivery and coordination:

i. Emerging Technologies program

Emerging technologies will also be encouraged through the measured savings approach

ii. Codes and Standards program

Not applicable to this third-party program.

iii. WE&T efforts

Not applicable to this third-party program.

iv. Program-specific marketing and outreach efforts (provide budget)

Not applicable to this third-party program.

v. Non-energy activities of program

Not applicable to this third-party program.

vi. Non-IOU Programs

Program staff will closely coordinate this Program with other utility and non-utility programs to maximize effectiveness. These programs include, but are not limited to, the Standard Performance Contract Program, the Express Efficiency Program, the Building Operator Certification Program, Retro-commissioning Program, and the CEC's Enhanced Building Automation Program.

vii. CEC work on PIER

Not applicable to this third-party program.

viii. CEC work on codes and standards

Not applicable to this third-party program.

ix. Non-utility market initiatives

Not applicable to this third-party program.

c) Best Practices

The Program will incorporate a variety of best practices, including:

- Program Theory and Design: The Program has a sound program plan, linking its strategic approach to policy objectives and constraints, and maintaining program design flexibility to respond to changes in the market and other factors.²

² See Volume S – Crosscutting Best Practices Report and Project Summary, National Energy Efficiency Best Practices Study, December 2004, pages S14-15.

2009-2011 Energy Efficiency Programs Healthcare Energy Efficiency Program Implementation Plan

- Program Management: The Program has clearly defined program management responsibilities to avoid confusion as to roles and responsibilities and will use a well-qualified engineering staff.
- Program Reporting and Tracking: The Program will define and identify key information needed to track and report early in the program development process and has designed program tracking systems to support the requirements of utility, evaluators and Program staff.

d) Innovation

This Program may be considered innovative based on the composition of the team. The team is comprised of members with the following complimentary skills: energy efficiency savings deliver experience, healthcare facilities expertise, and hospital project experience. Together, the Program team is made up of highly qualified professional organizations that have direct experience with this industry and understands their operations and hurdles towards energy efficiency implementation.

e) Integrated/Coordinated Demand Side Management

This Program supports the ideals of integrated demand-side management by encouraging customer adoption of a variety of energy efficiency and other energy-related measures. Lost opportunities will be minimized by using a whole building/system approach during the initial audit phase. The Program will focus on the retrofit and commissioning component of the energy efficiency strategy as well as demand response, new construction, and self-generation opportunities. Information obtained about demand response, new construction, or self-generation activities shall be included in audit report and passed to SDG&E staff for further evaluation.

f) Integration Across Resource Types

Not applicable to this third-party program.

g) Pilots

The Contractor is working with cities in California to initiate a tax assessment district to finance energy efficiency and solar projects for its residents as allowed through A.B. 811. The Program team will educate healthcare facilities in participating communities about this funding option.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

2009-2011 Energy Efficiency Programs Healthcare Energy Efficiency Program Implementation Plan

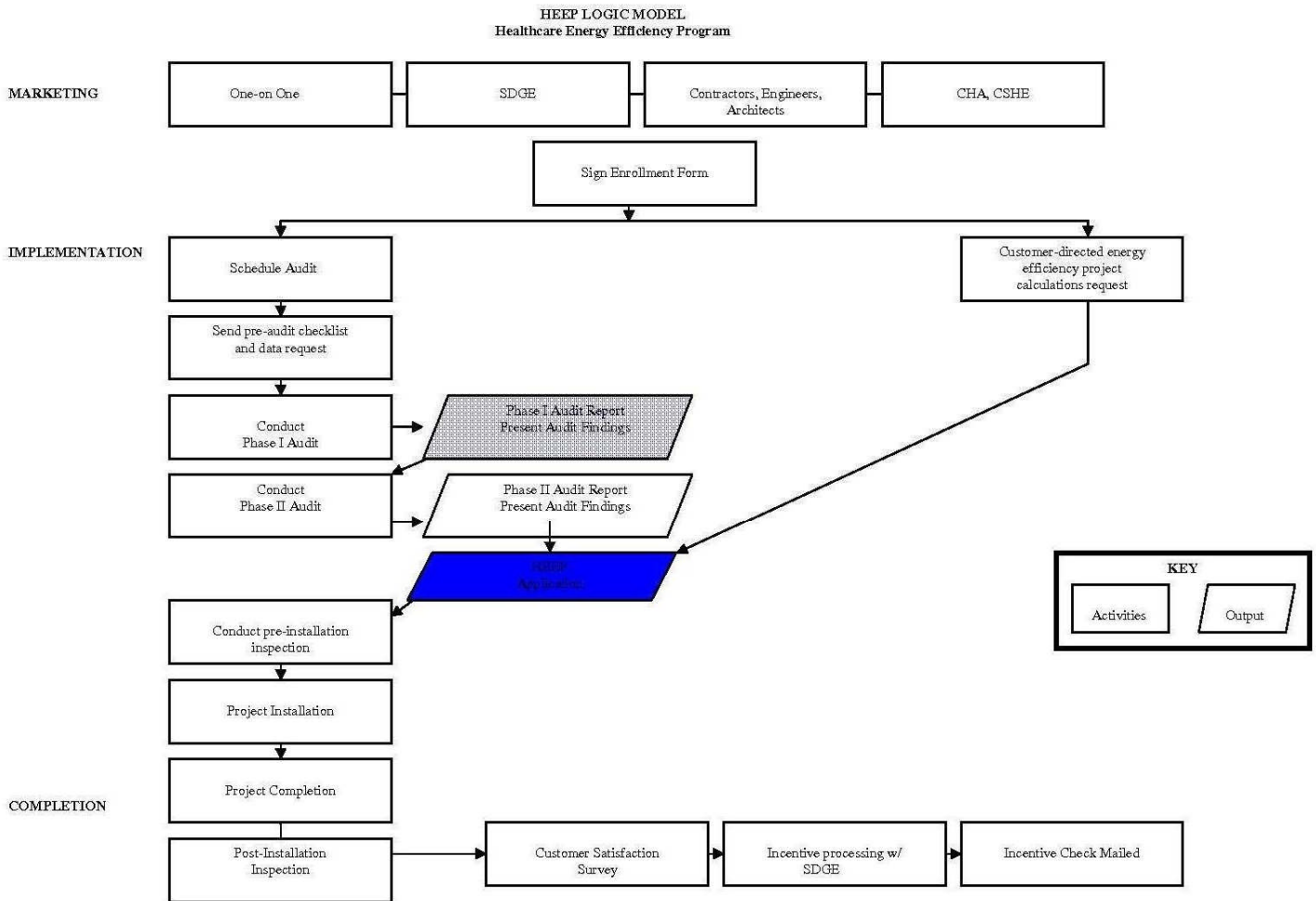
7) Diagram of Program

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model

The following logic model is provided to help clarify the program's structure and implementation.

Program Logic Model



2009-2011 Energy Efficiency Programs K-12 Energy Efficiency Education Program Implementation Plan

- 1) Program Name: K-12 Energy Efficiency Education
 Program ID Number: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-Res04 - K-12 Energy Efficiency Education (E3)	566,592	33,750	1,128,321	0	1,728,663
	TOTAL:	\$ 566,592	\$ 33,750	\$ 1,128,321	\$ -	\$ 1,728,663

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-Res04 - K-12 Energy Efficiency Education (E3)			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

**2009-2011 Energy Efficiency Programs
K-12 Energy Efficiency Education
Program Implementation Plan**

a) Describe program

The SDG&E K-12 Energy Efficiency Education Program is designed to educate students about energy with an emphasis on energy efficiency. The primary purpose of this Program is to create awareness amongst families, students, and teachers of the potential cost savings opportunities available through behavioral changes related to energy use. The objective of the Program is to change the behavior of students so that they always exhibit good conservation practices at home and school. The intent is to have participating local teachers influencing other local teachers to become engaged and implement the curriculum in their classrooms. SDUSD and SDCOE will engage science teachers through professional developments, measure knowledge outcomes as a result of curriculum implementation, and survey teacher, students, and family behavioral changes as a result of this curriculum implementation.

Specifically, the Program:

- Educates K-12 students in the SDG&E service area about energy efficiency;
- Provides professional development for teachers;
- Disseminates energy efficiency education materials; and
- Implements the Program throughout SGD&E service area.

b) List measures

This Program does not provide any incentives.

c) List non-incentive customer services

The following measures are provided directly by the Program:

- Curriculum kits targeted at grades 1, 4, 6 and high school;
- Teacher support materials, and
- Take home materials for students.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

2009-2011 Energy Efficiency Programs K-12 Energy Efficiency Education Program Implementation Plan

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Internal Market Transformation Planning Estimates			
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

Most people lack a good understanding of how behaviors impact their use of energy and the cost thereof. The energy market lacks price signals that are clear enough to influence

**2009-2011 Energy Efficiency Programs
K-12 Energy Efficiency Education
Program Implementation Plan**

behavior. This lack of price elasticity leads customers to use more energy than they might if the cost of their actions were clear. Implementation of no-cost behavioral changes alone can save 10% to 30% of the energy use in a typical home. Incorporating education and awareness about energy efficiency into the K-12 curriculum not only influences young people, but has a very good change of influencing the adults at home as well.

Barrier	Solution
Lack of consumer information about energy efficiency benefits	This Program provides energy efficiency measures that can be installed directly in customers' homes and thus consumers can experience the benefits of EE.
Lack of a viable and reliable resources to educate and inform	This Program provides customers with energy efficiency information from a trusted source – the school system.

d) Quantitative Program Targets:

Table 5

K-12 Energy Efficiency Education	Program Target by 2009	Program Target by 2010	Program Target by 2011
# of on-site trainings to be held	10	10	10
# of on-line trainings	250	250	250
# of teachers trained at on-site professional development	600	600	600
# of teachers trained at online professional development	1500	1500	1500
# of K-12 students reached	25,400	25,400	25,400
# of schools to be trained	737	737	737
# of kits to be distributed	2100	2100	2100

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

This program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
By targeting and partnering with schools to integrate energy efficiency information into curricula, the program helps increase EE knowledge and awareness.	WE&T	Establish energy efficiency education and training at all levels of California's educational system.	1-5: Develop K-12 curriculum to include energy efficiency fundamentals (e.g. math, science, behavior) and identify career options in energy-related fields.

6) Program Implementation

a. Statewide IOU Coordination:

2009-2011 Energy Efficiency Programs
K-12 Energy Efficiency Education
Program Implementation Plan

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party Program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

The K-12 Energy Efficiency Education Program is similar to education programs operated in California's other utility service territories.

b. Program delivery and coordination:

- i. Emerging Technologies program
Not applicable to this third-party program.
- ii. Codes and Standards program
Not applicable to this third-party program.
- iii. WE&T efforts
Not applicable to this third-party program.
- iv. Program-specific marketing and outreach efforts (provide budget)
Not applicable to this third-party program.
- v. Non-energy activities of program
Not applicable to this third-party program.
- vi. Non-IOU programs
Not applicable to this third-party program.
- vii. CEC work on PIER
Not applicable to this third-party program.
- viii. CEC work on codes and standards
Not applicable to this third-party program.
- ix. Non-utility market initiatives
Not applicable to this third-party program.

2009-2011 Energy Efficiency Programs K-12 Energy Efficiency Education Program Implementation Plan

c. Best Practices:

The Program design incorporates various best practice elements. Specific items include²:

Program Theory and Design

- The Program has feedback loops built into program design & logic. An example of this is the Program's integration of results from its recent process and impact evaluation such as enhancing its website by developing teacher portals and provided web links for students, teachers and families.

Program Management: Quality Control and Verification

- The Program assesses customer satisfaction with the product through evaluation. These evaluations are conducted regularly, helping ensure delivery of a quality product.

Program Implementation: Participation Process

- Program consciously seeks to make participation in the program easy for teachers, students and their families. In particular, the Program uses a simplified Internet interface to help distribute information.
- In addition, participation strategies are multi-pronged and inclusive. Information is distributed directly and through the Internet with specialized training also provided through the Program's web site.

d. Innovation:

This is not applicable to this program.

e. Integrated/coordinated Demand Side Management:

This Program supports the ideals of integrated demand-side management by encouraging widespread customer adoption of a variety of energy efficiency and other energy-related measures.

f. Integration across resource types (energy, water, air quality, etc):

This Program promotes electricity, natural gas, and water conservation through the variety of measures distributed in its kits.

g. Pilots: Please describe any pilot projects that are part of this program.

This is not a pilot program.

h. EM&V:

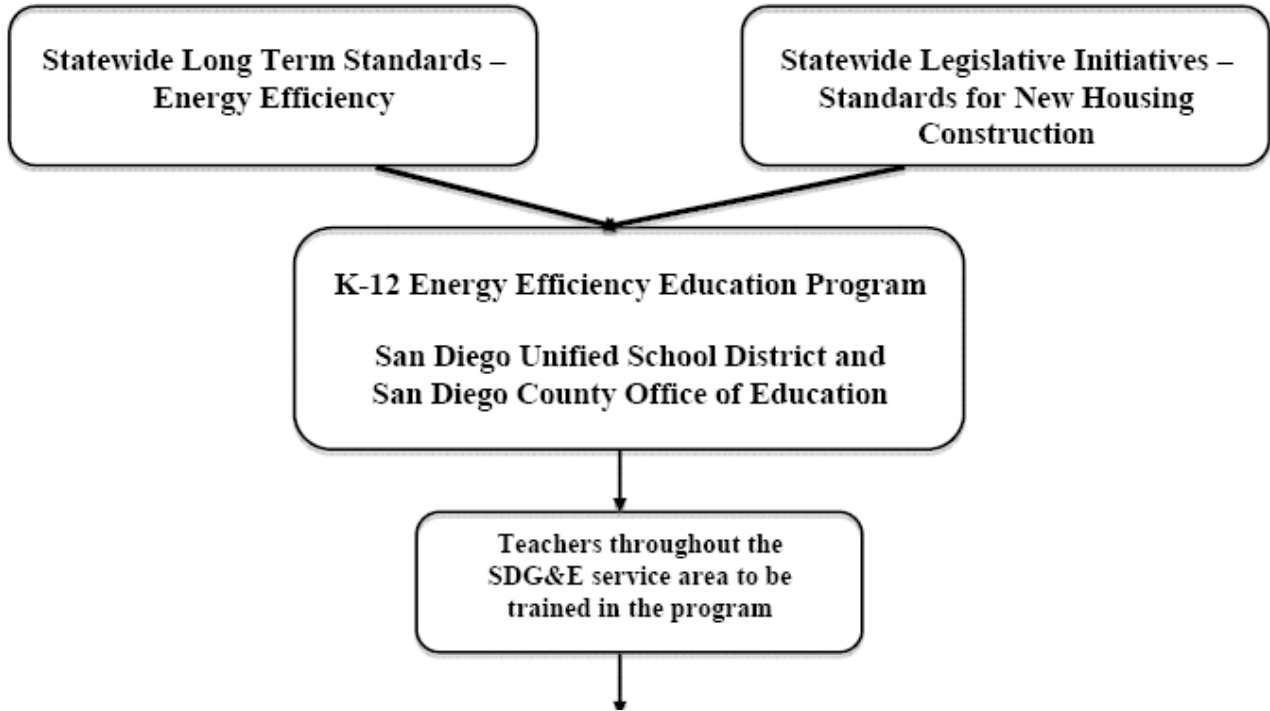
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process

² The best practices listed below are identified in the *National Energy Efficiency Best Practices Study, Volume S – Crosscutting Best Practices and Project Summary*, prepared by Clean Energy Consulting, Inc., December 2004.

**2009-2011 Energy Efficiency Programs
K-12 Energy Efficiency Education
Program Implementation Plan**

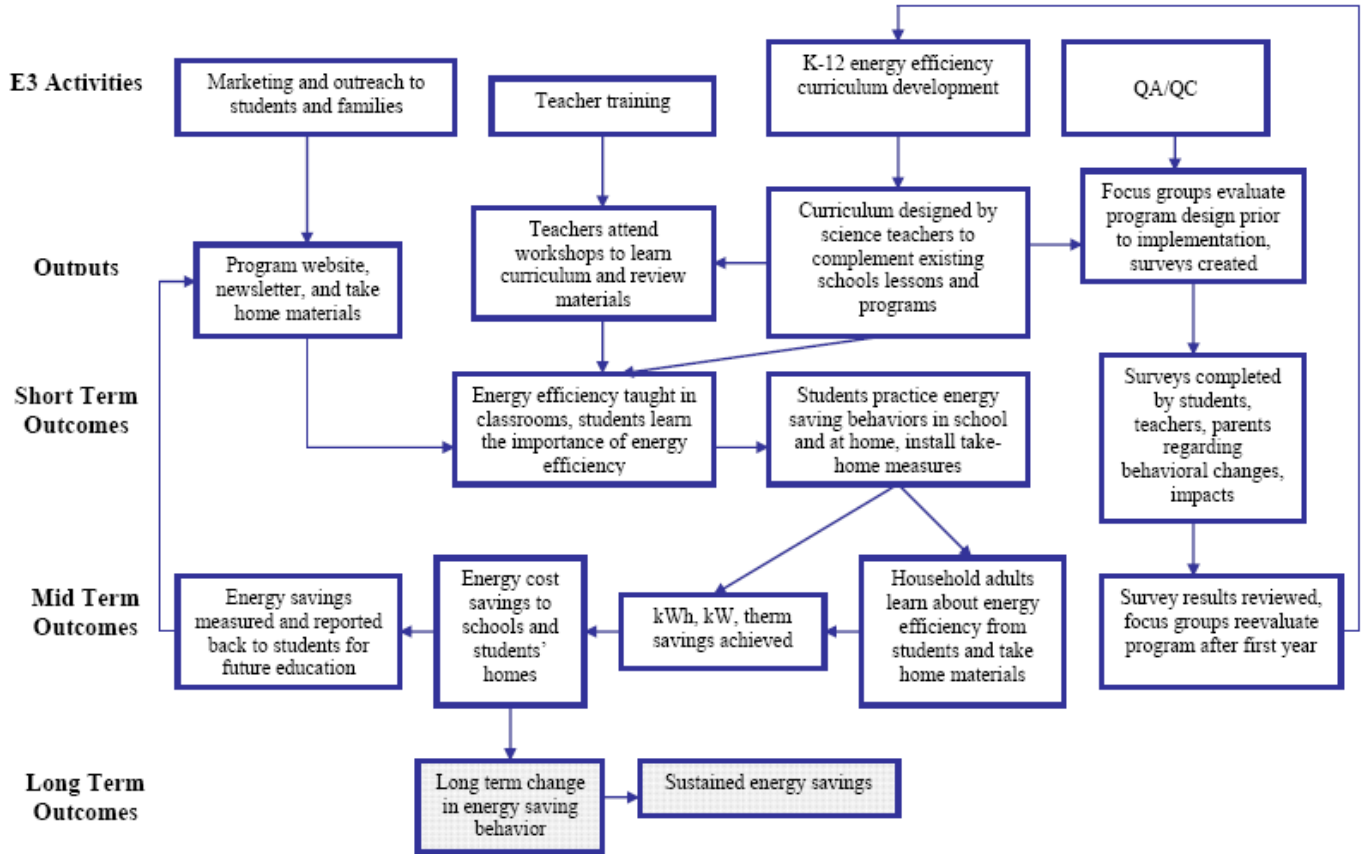
evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program:



2009-2011 Energy Efficiency Programs K-12 Energy Efficiency Education Program Implementation Plan

8) Program Logic Model



Shaded boxes indicate induced outcomes that are outside of the direct program influence

2009-2011 Energy Efficiency Programs K-12 Private Schools and Colleges Audit and Retrofit Program Implementation Plan

- 1) Program Name: K-12 Private Schools and Colleges Audit and Retrofit
 Program ID: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes10 - K-12 Private Schools and Private Coll	110,199	83,637	479,570	0	673,405
	TOTAL:	\$ 110,199	\$ 83,637	\$ 479,570	\$ -	\$ 673,405

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes10 - K-12 Private Schools and Private Coll			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for Source Programs has specific estimated savings and demand impacts.

**2009-2011 Energy Efficiency Programs
K-12 Private Schools and Colleges Audit and Retrofit
Program Implementation Plan**

a) Describe program

This Program will provide comprehensive energy efficiency (EE) services to private preschools, K-12 schools, private colleges and universities, and trade/technical schools market segments. The primary objective of the program is to help these facilities realize both short- and long-term energy savings in a cost effective manner.

The Program is designed to identify and address most energy efficient opportunities that can be found at an educational facility, ranging from no-cost/low-cost measures to those that require capital investments. Specific measures will include lighting, Heating, Ventilating, and Air Conditioning (HVAC), refrigeration, and plug loads. An energy audit will be conducted at the facility to identify all potential opportunities; those will be classified based on the type and level of investment required. No-cost/low-cost measures will be provided to participating facilities free of charge, and the Program will help pay for capital investment measures through financial incentives.

The Program will provide the following additional services:

- Provide technical training and assistance to staff at the school/college facilities to help them maximize operational and energy efficiency;
- Identify capital investment measures through energy audits and work with school management to utilize funds freed up by lower energy bills to implement these measures;
- Work closely with school administrators and facility managers to coordinate funding requests, allocations, and all other planning steps necessary to complete installations;
- Provide assistance to secure external funding from loans or grants that are available from both public and private organizations;
- Coordinate with participating school districts to implement subsidized demonstration projects involving innovative technologies that can be easily replicated at other sites;
- Provide technical and administrative assistance for project implementation and financial incentives for successfully completed projects; and
- Provide referrals to demand response and information about distributed generation technologies as well as help participating facilities develop infrastructure that will enable them to continue demand side management programs with decreasing assistance from Company.

**2009-2011 Energy Efficiency Programs
K-12 Private Schools and Colleges Audit and Retrofit
Program Implementation Plan**

b) List measures

Following are three of the Program’s primary measures:

Program Energy Efficiency Measures and Incentives

Measure	Incentives (per unit)
Occupancy Sensors	\$21.50
Vending Machine controls	\$60.00
LED Exit Signs	\$65.00

The Program installs no-cost/low-cost measures free of charge to the facilities. For some other measures, incentives (comparable to those of Company) will be paid to the customer. The list of measures includes, but is not limited to, the following:

- **Lighting-** Replace existing incandescent or low-efficiency Compact Fluorescent Lights (CFLs) with high-efficiency CFLs.
- **HVAC Quality Maintenance:** Perform low-cost/no-cost maintenance tune-ups, such as economizer repair, refrigerant charging, filter replacement, and coil cleaning
- **Motors:** Install timers to automatically shut off motors during the periods of non-activity, such as
 - (i) 7-Day programmable timers will be installed on all plug load equipment operating overnight that is non-critical (example: water coolers, large printers, copiers, etc.)
 - (ii) Install beverage vending machine controllers. Programmable timers will be used to turn off the vending machines outside of facility’s operating hours.
- **Water Heating:**
 - (i) Insulate or replace damaged insulation on water heater pipes, and install timers to lower hot water temperatures during periods of low- or non-activity;
 - (ii) Replace standard showerheads with low-flow shower heads. All standard showerheads should be replaced with heads having flow rates of 2.5 gpm or lower.
 - (iii) Replace all standard faucet aerators with low- flow faucet aerators delivering 1.5 gallon per minute (gpm) or lower.
- **Refrigeration:** Insulate or replace damaged insulation on refrigerant lines serving walk-in or reach-in refrigerators, coolers, and freezers;

The following are representative measures that will be provided with financial incentives upon successful verification of measure installation by participating schools. The range of actual measures will be significantly wider than the list provided below:

- **Install Demand Control Ventilation controls.** This measure provides electricity and gas savings. Common areas with irregular occupancy (gym, multi-purpose-rooms and cafeterias) are good candidates for this

**2009-2011 Energy Efficiency Programs
K-12 Private Schools and Colleges Audit and Retrofit
Program Implementation Plan**

measure. The measure will reduce the outdoor air intake in proportion to the number of occupants.

- **Occupancy Controller Thermostat.** This measure provides electricity and gas savings.

c) List non-incentive customer services

The Program provides non-incentive measures such as:

- Energy Audits
- Facility staff and student training
- Benchmarking
- Funding Assistance
- Program Website, newsletters, etc.
- Awards and Recognition

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California

**2009-2011 Energy Efficiency Programs
K-12 Private Schools and Colleges Audit and Retrofit
Program Implementation Plan**

Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Quantitative Program Targets:

Table 5 shows the Program annual targets in terms of number of facilities that will receive the services.

Table 5

K-12 Private Schools & Colleges EE & Retrofit Program	Program Target by 2009	Program Target by 2010	Program Target by 2011
# of Facilities	38	60	52

Note: Values provided represent yearly targets.

d) Advancing Strategic Plan goals and objectives:

The Program directly affects one of the market sectors targeted by the Strategic Plan, and uses several cut-crossing areas towards achieving the goals as outlined in the Strategic Plan. This Program supports the Strategic Plan in the following manner:

- The Program targets private schools, which are within the commercial market sector and thus supports meeting the commercial sector goals (*Section 3- Commercial Sector, Goals 2 and 3*);

**2009-2011 Energy Efficiency Programs
K-12 Private Schools and Colleges Audit and Retrofit
Program Implementation Plan**

- Since a major finding of any particular audit is likely to be HVAC related, the program will support quality HVAC installation and maintenance. (*Section 6- HVAC, Goal 2*);
- Through the installation of no-cost/low-cost measures and assistance in Demand Response (DR) events participation, the Program provides the facility with effective DSM options (*Section 8- DSM Coordination and Integration, Goal 1*); and
- The Program seeks to educate the schools' management, staff and the students in energy efficiency practices and benefits (*Section 9-Workforce Education and Training, Goal 1, Near Term Implementation Plan, Bullet 4*).

6) Program Implementation

a) Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. To the extent that this program may share common elements with the IOU's other third party programs or core or third party programs in other IOU service areas, the Program will strive to coordinate similar activities.

b) Program delivery and coordination:

- i. Emerging Technologies program
Does not apply to this program.
- ii. Codes and Standards program
Does not apply to this program.
- iii. WE&T efforts
Does not apply to this program.
- iv. Program-specific marketing and outreach efforts (provide budget)
After enrollment, Contractor will work closely with the school administrators to come up with the most effective financial and implementation strategies that can help the facilities move forward quickly. Due to the unique schedule of

2009-2011 Energy Efficiency Programs K-12 Private Schools and Colleges Audit and Retrofit Program Implementation Plan

educational establishments that typically budget on an annual basis, there is a need to move forward quickly and to come up with a reasonable and feasible plan that can be incorporated into schools' upcoming budgets. Contractor will also provide the necessary assistance in presenting, convincing, and defending the funding request in front of the decision-makers, which are typically comprised of a Board of Directors. A reasonably quick delivery of services is anticipated after enrollment, particularly because many establishments will be relying on savings from the low-cost/no-cost measures to help fund the upcoming energy efficiency projects.

Implementation steps include:

- **Energy Audit:** Contractor will conduct energy audits to identify low-cost/no-cost measures, short-term capital investment measures, and long-term projects that require very significant capital cost and/or long payback period. These audits will also be used to assess demand response opportunities that can allow additional revenues to be reinvested in capital investment measures. In these audits, all applicable end-uses will be investigated, including lighting, HVAC, refrigeration, and plug loads.
- **No-Cost/Low-Cost Direct Implementation:** Contractor will implement no-cost/low-cost measures identified through the audit free of charge to the facility. These may include, but are not limited to, measures with a payback of less than one year. Priority will be given to the facilities that are used year-round or have consistent occupancy patterns. Please refer to section 4) b) for the list of specific measures.

The proposed Program is designed to have a comprehensive approach that integrates many implementation features and elements that have proven successful in the past. These elements include the following:

- **Benchmarking:** Contractor will perform benchmarking for participating facilities using energy consumption data and benchmarking parameters such as type of facility, facility size, and weather zone. The benchmarking effort serves different purposes:
 - (1) It can be used to identify facilities that are in the most need for energy efficiency improvements. At facilities with low rankings, the opportunity to make an immediate impact is typically more significant compared to the opportunity at schools that have been making a consistent effort to reduce energy consumption.
 - (2) It allows facilities to determine where they stand relative to similar facilities in the region; thus it can be used to motivate under-performing facilities to take action.
 - (3) The benchmarking data can be used to track energy savings that result from no-cost/low-cost measures delivered to participating facilities. This is useful to determine how much money should be reinvested into capital-cost measures later on.
- **Reinvestment Strategy:** All participating facilities must sign an agreement stipulating that all generated savings from free services will be reinvested into capital-cost measures. Page 1266 of 1423

2009-2011 Energy Efficiency Programs K-12 Private Schools and Colleges Audit and Retrofit Program Implementation Plan

- **Diagnostics and Repair:** For large facilities with central heating and cooling plants, retro-commissioning may be performed to correct operating deficiencies with the HVAC, lighting, and refrigeration systems. All measures with less than one-year payback will be delivered free of charge to the facility.
- **Demand Response:** In the energy audit performed at the facility, all demand-response opportunities will be investigated. Feasible measures will be discussed with the facility and planned for implementation.
- **Workplace Education and Training through Student and Staff Participation:** Contractor will provide training to the facility staff and the students on the correct maintenance and operational protocols that enhance energy efficiency.

- **Technical Assistance:** Contractor will provide technical assistance to implement cost effective capital investment measures. The assistance to be provided includes technical analysis, specifications assembly, documents review, vendor selection, and installation overview. For long-term or large-scale capital-cost measures that may take longer to develop or get implemented after program conclusion, Contractor will provide limited administrative and technical assistance and refer the projects to Company's core programs.
- **Funding Assistance:** Contractor will assist the schools in securing financial loans or grants for facility improvements.
- **Demonstration Projects:** Participating establishments that can demonstrate strong intent to move forward with particular measures involving innovative energy efficient technologies may receive highly subsidized demonstration project(s) to showcase the technology's efficacy. To qualify for the projects, the facility must demonstrate intent to adopt the measure in the rest of its facilities, and the project can be replicated elsewhere without a significant re-design/re-engineering effort.
- **Case Studies:** Contractor will prepare case studies to document success stories from this Program. The case studies can benefit this and future programs in many ways. They can be used as marketing tools to convince other establishments that energy efficiency is a viable method to reduce operational costs.
- **Awards and Recognition:** The program will provide awards and recognition to participating schools and colleges that have successfully implemented energy efficiency projects and achieved significant energy savings. Candidates will be selected for awards that include monetary contributions to their energy efficiency funds on an annual basis. In addition, Contractor will work with local publications to promote successful establishments to further recognize their efforts in incorporating energy efficiency and green learning environment.
- **Program Newsletters:** Quarterly newsletters will be sent out to participating facilities. The newsletter serves as an information source for energy efficiency technologies and other program news and updates. Participating facilities can select to receive the newsletter in printed or electronic format.

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- **Program Website:** A program website will be created to provide information for program participants. The website will contain program information as well as general energy efficiency information.

Contractor is not expected on hiring sub-contractors for this Program.

v. Non-energy activities of program
Does not apply to this program.

vi. Non-IOU Programs
Does not apply to this program.

vii. CEC work on PIER
Does not apply to this program.

viii. CEC work on codes and standards
Does not apply to this program.

ix. Non-utility market initiatives
Does not apply to this program.

c) Best Practices:

The direct marketing approach used by the Program constitutes” best practice”.

The Program will leverage lessons learned and best practices from programs across the state. The program incorporates a variety of best practices, including:

- **Program Management:** The program has developed and maintains clear lines of responsibility and communication and uses well-qualified engineering staff.
- **Program Participation Process:** Program keeps the application process and forms from being overly complex and costly to navigate, provides technical assistance to help applicants through the process, and has developed a cadre of trade allies who can then assist customers through the process.
- **Developing and disseminating case studies of success stories.**

d) Innovation:

The Program has been innovative by providing strong incentives, such as no-cost / low-cost energy-efficiency measures free of charge, for the facilities to participate in the Program. In addition, the Program provides training not only to the facilities’ staff, but also includes the students in the EE training. Training will also be provided to the maintenance staff, which will carry the energy efficient practices into the future to meet long-term goals.

e) Integrated/coordinated Demand Side Management:

The proposed Program is a fully integrated program. The Program: 1) directly implements no-cost/low-cost energy efficiency measures, 2) evaluates and recommends

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measures for which the customer receives rebates, 3) generates an audit report that provides options for participation in DR programs, and 4) identifies (in the report) potential on-site power generation options and the availability of the State and Federal funds.

f) Integration across resource types

The Program does not specifically aim to integrate across resource types. However, the byproduct of the reduced energy use is the reduced carbon footprint of the serviced facility, and therefore, improved air quality. Those measures that target reduction in natural gas consumption in water heating applications, such as installation of low-flow showerheads, do contribute to water conservation.

g) Pilots:

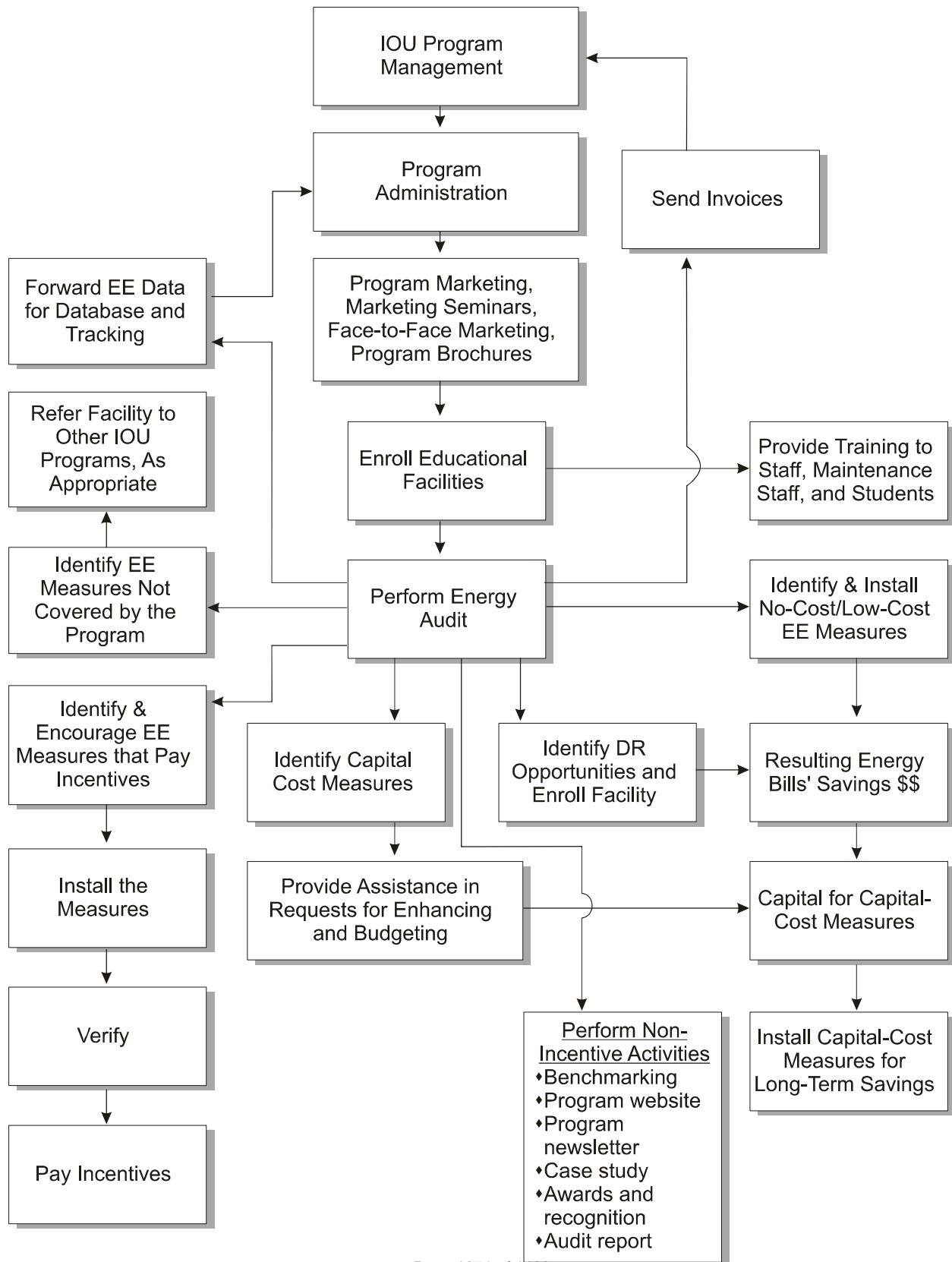
There are no pilot projects associated with the Program.

h) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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8) Program Logic Model:



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- 1) Program Name: Residential HVAC Tune-up/Quality Installation of New Equipment (also known as AC TIME)
 Program ID Number: TBD
 Program type: Third-Party Program

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-Res01 - Res HVAC Tune-up/Quality Installation	1,131,523	675,000	842,701	0	2,649,225
	TOTAL:	\$ 1,131,523	\$ 675,000	\$ 842,701	\$ -	\$ 2,649,225

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-Res01 - Res HVAC Tune-up/Quality Installation	56,090	94	0
	TOTAL:	56,090	94	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

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Program Implementation Plan

4) Program Description

a) Describe program

AC TIME targets San Diego Gas & Electric (SDG&E) residential customers with air-cooled, refrigerant-based (known as “direct expansion or “DX”) air conditioning improvements. The objective of the program is to improve the performance of existing Heating, Ventilating, and Air Conditioning (HVAC) systems for participating SDG&E customers through the use of advanced diagnostic techniques, the replacement of existing inefficient air conditioners with new high efficiency units, adherence to quality installation procedures, and quality of service training designed to provide HVAC contractors with skills that enable them to move energy efficient products and services through the market place.

The Program will be comprised of two main components: (1) air conditioner system tune-ups using advanced diagnostic methods, and (2) installation of high efficiency air conditioners with verification of a quality installation. The Program provides rebates and/or incentives for the implementation of the following measures in the residential HVAC market:

- Refrigerant charge and airflow (RCA) diagnostic tune-ups;
- Condenser coil cleaning;
- Duct test and sealing;
- High efficiency air conditioners, and
- Quality installation verification.

Contractor will bundle these individual measures to provide a more comprehensive level of service to the customer.

The Program will provide technical training and sales training to participating contractors, rebates for energy efficient air conditioning equipment, and incentives for quality installation of replacement equipment.

The advanced diagnostic methods employed are analogous to computerized diagnostics used in the automotive sector. Operating and environmental data are collected, entered into and analyzed by a computer. The resulting analysis provides the air conditioner technician with a diagnosis of the system and guidance on what corrective actions to take.

The principal means for conducting advanced diagnostics on HVAC incorporates systems, known as technical platforms, which have been developed by, and are maintained by, verification service providers (VSPs). In addition to providing the technical platforms, VSPs assist in recruiting and training contractors, perform quality assurance activities, database management of the operating data, and participate in the payment of contractors. Contractors will perform diagnostic and tune-up tasks using the technical platforms. Operating data for each test will be transferred to the VSP’s database where the data are subjected to quality assurance (QA) procedures. The VSP will then transfer the data to Contractor where additional QA and processing will be

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performed prior to uploading to SDG&E's Subcontractor Management and Reporting Tool (SMART) system for final processing and payment. Alternatives to the VSP model would be considered on a case-by-case basis.

Rebates/incentives will be offered for the installation of high efficiency air conditioning units and for quality installation verification of new air conditioning units. These two elements go hand-in-hand with ensuring the air conditioner is properly sized and properly installed so that it may deliver the energy savings that it is capable of delivering.

The Program will achieve energy efficiency savings through a variety of interdependent measures targeting both HVAC contractors and residential customers. Key program elements and the rationale associated with each are highlighted below:

- **Incentives.** The program will administer rebate/incentives to customers and contractors for the implementation of qualifying HVAC energy efficiency measures (e.g., diagnostic tune-ups, duct sealing, new high efficiency Air Conditioner (A/C) and quality installation). Qualifying program measures have been selected for their ability to provide cost-effective energy and peak demand savings. Rebates and incentives are provided to improve the real and perceived economics of measure implementation from the perspective of customers and HVAC service providers.
- **Advanced diagnostic tune-up of air conditioning systems.** Contractors performing advanced diagnostic tune-ups will use one of the accepted technical platforms or a suitable substitute. VSPs that participate in the program have developed technical platforms that generate a systems analysis based on diagnostic readings for the HVAC unit. The system uploads data collected by a technician, processes and analyzes the data and guides the technician towards remedial steps that should be taken if indicated by the data. After taking these remedial steps, if necessary, operating data is measured and recorded in the technical platform so that data on system operation after remediation is retained.
- **Program workshops and contractor outreach.** Program workshops will be a key outreach strategy in recruiting HVAC contractors for the program, and educating them on quality installation issues. This approach has proven to be a key element in reaching contractors and obtaining their participation.
- **Comprehensive contractor training on technical aspects of the program.** Contractor will provide classroom and individualized field training for program contractors on program measures and the use of program tools. As a requirement for program participation, training sessions will be attended by HVAC contractors who will be performing the prescribed measures in the field. The intent of training is to persuade actors across all levels of an organization, from decision-makers to field implementation staff, of the efficacy of energy efficiency measures from both an operations and revenue generating perspective.

Contractor will investigate instituting a contractor certification program for program participants, ideally in conjunction with industry certification organizations such as North American Technical Excellence (NATE). If adopted, a logical implementation approach will be utilized to maintain market momentum while helping improve the technical competency in the HVAC community.

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- **Sales training and the sales organization.** In addition to technical training, Contractor will work with contractors to focus on their individual needs throughout the sales cycle. Many HVAC contractors do what they do well, i.e., maintain and install air conditioners. There is often a gap in their skill set for selling energy efficiency services to customers. This is particularly important to residential customers where the point of sale is often while the technician is on-site with the customer. Experience shows disconnects at the organizational level between the technicians who collect field data on HVAC efficiency opportunities and the sales staff who transform these opportunities into energy efficiency sales. Contractor will therefore provide sales training for contractors, and will be available to assist contractors on an individual basis, for instance by fine-tuning their customer proposals or accompanying them on customer sales calls focused on delivery of energy efficiency measures. AC TIME will also continue working with HVAC contractors to help develop their organizations around energy efficiency as a key attribute in this market.
- **Lead generation.** Even mid-sized mechanical contractors seldom have the marketing and sales resources required to develop leads for new kinds of services. In the residential sector, Contractor will use billing data to identify customers who use abnormally high levels of energy for cooling. As part of its existing audit program, Contractor is expected to have experience and systems in place for handling and analyzing billing data. This analysis will yield a targeted customer list for direct mail and follow-up telemarketing. Customers who are interested in receiving services will be connected with a participating contractor.

AC TIME will employ multiple marketing strategies in reaching its target markets.

- **Contractors.** Contractor will leverage the work performed for the 2006-08 AC TIME where over 70 contractors have been recruited. As was previously used, a combination of direct mail, recruitment workshops and direct communication has proven to be effective in recruiting contractors into the program. With the addition of new equipment incentives AC TIME will work with the manufacturers and distributors of air conditioning equipment to ensure their pools of contractors are trained and participating AC TIME. Contractors will be contacted regularly to ensure they continue to be engaged in the program.
- **Customers.** Targeted direct marketing will be conducted. Primary targets will be geographically based, however, AC TIME would benefit from targeted marketing efforts based on energy usage patterns of customers. This type of marketing can be very targeted and yield positive savings results, even in areas of diminished savings such as climate zone 7, by enabling participation of high air conditioning users.

With geographic targeting, areas are identified as targets and a campaign is launched. As in the past, a multi-pronged approach will be used: (1) community groups such as homeowners associations (HOAs) will continue to be a valued resource in this area; (2) targeted direct mail will be used to

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promote advanced diagnostics; and (3) door-to-door canvassing will be performed. Major media may be used on a selective basis.

Contractors will be a primary marketing vehicle for new equipment installation. Contractors will receive sales training, as well as technical training on quality installation procedures.

The implementation activities are comprised of training, technical assistance, testing and diagnostics, VSP coordination and invoice processing, quality assurance, customer service and relations, and rebate processing.

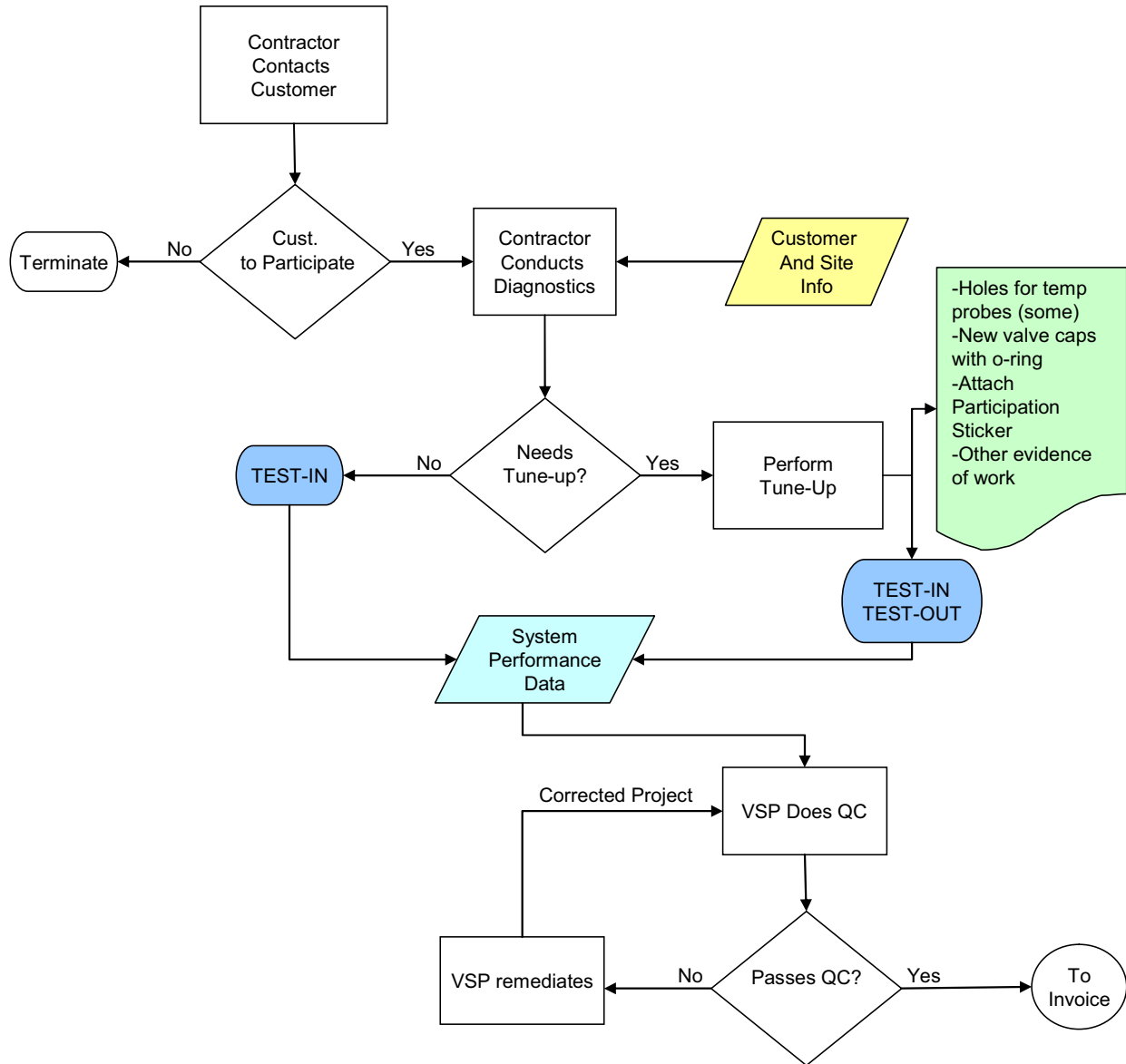
- **Training and certification.** AC TIME provides training to participating contractors. The training component includes technical and sales training. Training will be conducted by AC TIME staff as well as selected training contractors.
- **Technical assistance.** AC TIME provides technical assistance to contractors. While closely related to training, we will address technical problem on a case by case basis. Some issues will be resolved via telephone while others may require on-site assistance.
- **VSP coordination.** Verification service providers (VSP) play a key role in AC TIME. Their technical platforms provide the basis for performing advanced diagnostic tune-ups with the data integrity and quality assurance the program requires.
- **Quality assurance.** Quality assurance includes a review of diagnostic test data received from VSPs, on-site inspections, detailed account matching protocols.
- **Rebate processing and invoicing.** Rebate/incentive processing for diagnostic tune-ups will be based on diagnostic test data received from VSPs. If an alternate, non-VSP, approach is used for diagnostics; an appropriate processing method would be implemented.

The flow charts below show the flow of a project through AC TIME:

Figure 1

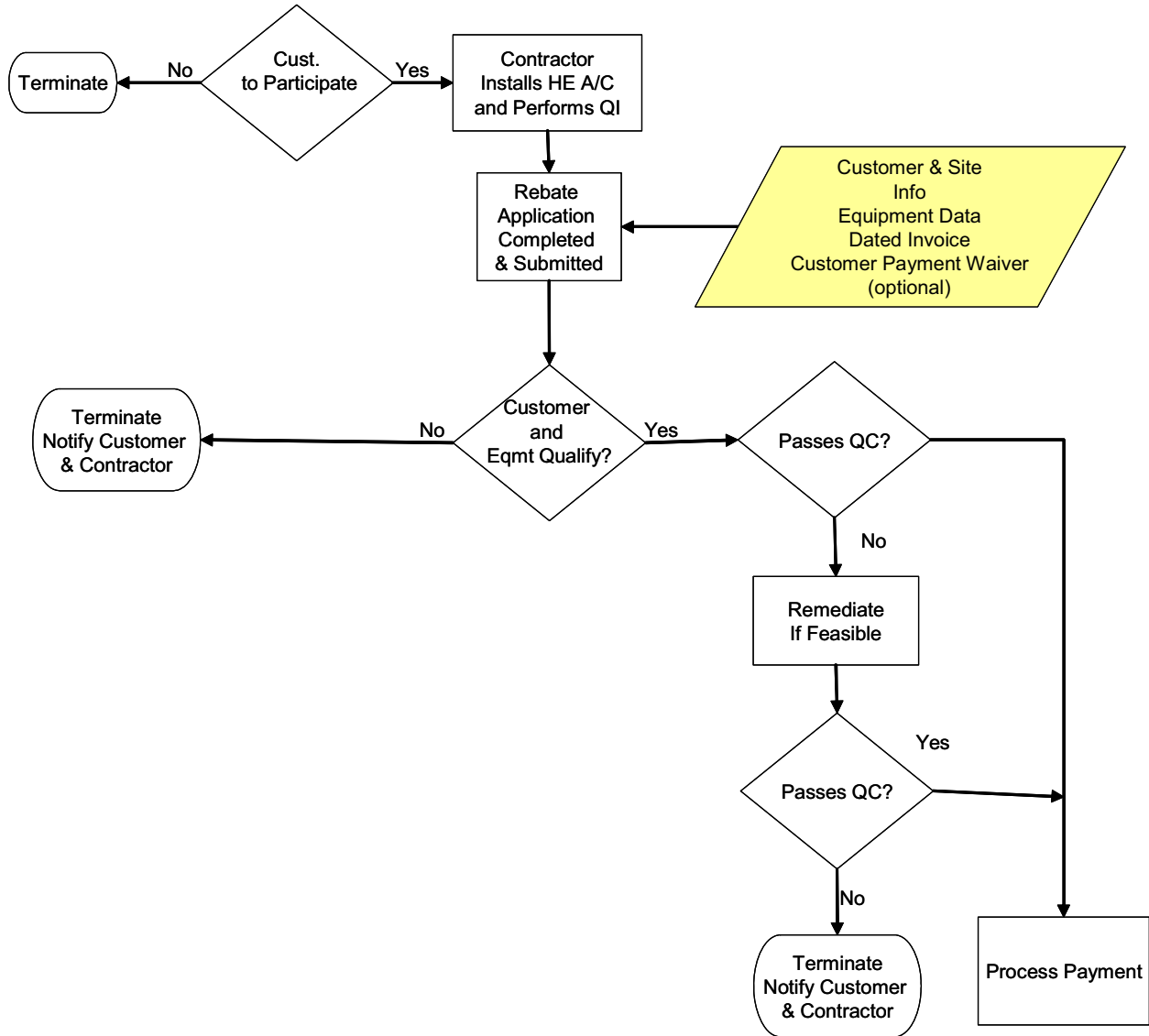
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HVAC RCA Process Flow Chart



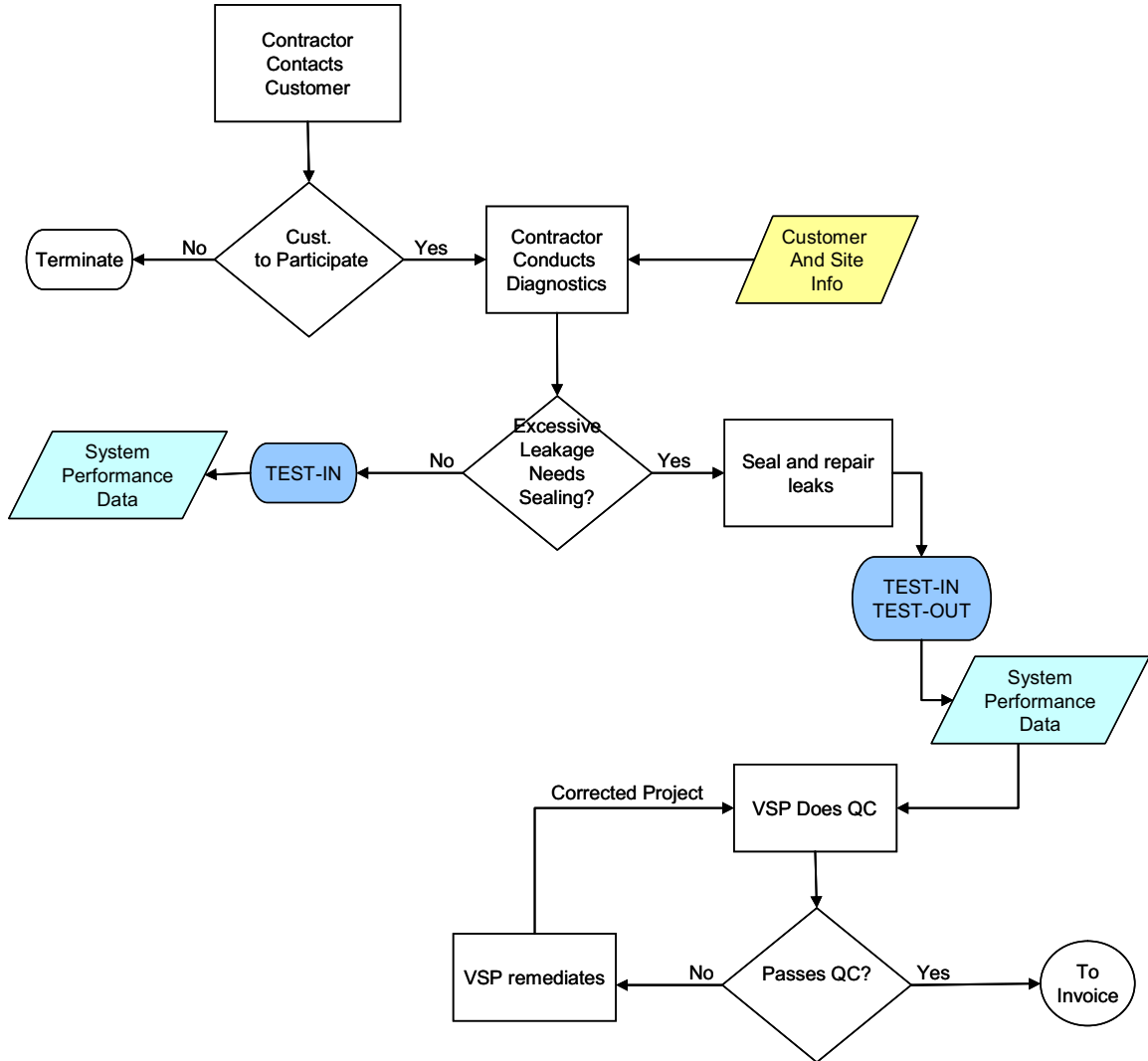
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Figure 2
**Residential HVAC High Efficiency Retrofit Rebate
Process Flow Chart**



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Figure 3
Residential HVAC DTS Process Flow Chart



b) List measures

Measure	Incentives (per unit)
Refrigerant Charge and Airflow	\$25/ton (End Use Customer) \$45/ton (Other Entities)
Condenser coil cleaning	\$10/Large or Small A/C Unit (End Use Customer) \$45/Large or Small A/C Unit (Other Entities)
Duct Test and Seal	\$25/1000 SF Floor space (End Use Customer) \$100/1000 SF Floor space (Other Entities)

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Measure	Incentives (per unit)
HE Air Conditioners	SEER 14 SEER 15 MoH \$50 /\$225 MF \$50/\$175 SF \$50/\$225 SEER 18 MoH \$75/\$280 MF \$75/\$220 SF \$75/\$280
Quality Installation Verification	\$25/Home (End Use Customer) \$280/Home (Other Entities)

c) List non-incentive customer services

- Contractor and technician training
- Customer service (call service center, troubleshooting, QA)

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

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The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

Previous experience in conducting similar programs by other organizations suggests that the followings are the major market issues and barriers to more widespread customer acceptance and contractor promotion of HVAC efficiency services. We have designed the program to address these issues in the following manner:

Barrier	Solution
<p>Pricing and competitive pressures. In surveys of HVAC contractors about what their customers value most highly, contractors report that quality/reliability issues (58%) and price (54%) are the most important factors. In contrast, energy efficiency is mentioned by customers as important only 25% of the time. While most contractors report that promoting high-efficiency equipment is important to their competitive position, most also say that it is “somewhat” or “very” difficult to sell high-efficiency units (XENERGY, 1999a). Other studies have found that many contractors seldom bid or even mention high efficiency equipment in sales situations (XENERGY, 1999; Robertson et al. 1996).</p>	<p>AC TIME provides financial incentives that allow the contractor to offer diagnostic services at reduced or no cost to the customer. This incentive will enable contractors to recover at least part of their investment in equipment and training and reducing the price competition, or profitability, of performing advanced diagnostics.</p> <p>AC TIME will stimulate a pull effect by increasing customer awareness of the advantages of advanced diagnostic tune-ups of A/C units.</p> <p>Contractors may be good at plying their trade, but may not</p>

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Barrier	Solution
Such practices are indicative of a number of barriers in the HVAC contracting market, principally stiff price competition in the construction industry and limited facility owner understanding of or interest in HVAC energy efficiency. Those contractors who have been successful in selling high efficiency equipment have generally taken a design-build approach. However, even many design-build contractors are uninterested in specifying high efficiency equipment	be adept at marketing value-added features of AC TIME such as tune-ups and QIV. AC TIME provides sales and marketing training in a classroom setting as well as on a consultation basis with individual contractors. In the past this has served to assist contractors in setting up their organization to more effectively reach their customers with the program.
Lack of focus on using and incorporating advanced diagnostic techniques into contractors operation. Contractors have traditionally stayed with their existing business model because they are comfortable with it. They need to see justification for changing their business practices.	AC TIME gives contractors two reasons to change their business model. First, provide state-of-the art services to their customers in diagnostic-driven tune-ups. Second, costs to adopt by the contractor are offset by the incentives offered by the program. In addition, the incentives offer the customer a reason to participate at a lower cost , thus stimulating the pull-effect through the contractor.
Sales challenges, end-user apathy and high cost of sales. From the perspective of the end-user, air conditioner units are often “out-of-sight, out-of-mind”, and therefore completely ignored until performance has degraded to a point where the unit no longer performs adequately. This approach results in unnecessarily high operating costs and early equipment failure. Most contractors do not know how to effectively make a sales pitch to the end-user to perform diagnostic tune-ups or replace inefficient air conditioners with high efficiency units. Nor do they perceive the benefits of using energy efficiency as a means to differentiate themselves from their competition.	<p>The sales challenge occurs on two fronts: lack of acknowledgement by customers of problems and lack of expertise on the part of contractors to effectively market diagnostic-based services.</p> <p>AC TIME will stimulate a pull effect by increasing customer awareness of the advantages of advanced diagnostic tune-ups of A/C units. Raising awareness and demand for services by customers will drive some contractors to either begin to offer diagnostics or to take advantage of the market and focus their efforts on their own promotion of diagnostics.</p> <p>AC TIME provides sales/marketing training to contractors to help them develop a marketing approach that fits their business. Training is offered in both classroom and onsite through consultation. Issues such as enhanced equipment life and energy savings, as well as the comfort-related benefits of properly tuned A/C units are emphasized.</p>

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Barrier	Solution
<p>Technician turnover. Turnover among HVAC technicians is very high. A typical contractor may lose as much as one quarter to one third of his technician staff in the course of a year. When business is related to certain cycles, such as periods of high construction rates, contractors expand and contract their staff to match their business. .</p>	<p>Technician turnover is problematic in the trades. It is no different when it comes to A/C contractors. A program such as AC TIME enables contractors to smooth out their work flow to manage the business cycles better. When installation activity is strong they can move technicians to installation, and when installation is not as strong technicians can be moved to diagnostics.</p>

The AC TIME Program strategy is designed to overcome these barriers and is founded upon the following market dynamics, described from the perspective of the end-user and HVAC service provider:

- **Customers:** (1) Need to perceive and give credence to the value provided by the product/service, including energy and non-energy benefits; (2) Must believe that the benefits of the measure outweigh the costs of adoption. These include not only the cost of the product or service itself, but the search, staff training, information system, risks, and other management costs involved in purchasing and using the measures effectively as well; and (3) Must be willing to purchase the new product/service in sufficient numbers in order for contractors to invest in the skills, tools, and systems required to deliver those services profitably.
- **HVAC Contractors:** (1) May be motivated to invest in delivering new energy efficiency services as a means to defend or gain market share in the short term; (2) Need to determine that they can deliver the energy efficiency services profitably in the long term and successfully in light of constraints posed by a very tight labor market; (3) Must be convinced that a sufficient number of customers are willing to buy the service to amortize investment in increased sales and delivery capacity; (4) Contractors will understand the concept of value-added service with their current maintenance program, and how this can increase their business opportunities; and (5) Must be trained to improve their technical capabilities in performing advanced diagnostic tune-ups and quality installation.

d) Quantitative Program Targets

The program has established the following cumulative targets.

Table 3

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Tune-up Services	10,968	11,064	11,104
Quality Installs	170	180	180
Contractor Training Sessions	10	10	10

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e) Advancing Strategic Plan Goals and Objectives

The Energy Efficiency Strategic Plan has articulated four energy strategies known as the “Big, Bold Energy Efficiency Strategies.” Big, Bold strategy #3 is: “The Heating Ventilation and Air Conditioning (HVAC) industry and market will be transformed to ensure that its energy performance is optimal for California’s climate.”

This program supports the Strategic Plan by addressing the following items:

- **Goal 2: Quality HVAC installation and maintenance becomes the norm. The marketplace understands and values the performance benefits of quality installation and maintenance.**

The quality installation of new air conditioners, while may be practiced by some contractors, is not currently be systematically documented. Proper sizing and installation are critical to the long-term efficient operation of the air conditioner. AC TIME will provide guidelines and incentives to customers and contractors for the quality installation of new air conditioners. In addition, contractors will be provided training to perform quality installations properly and to provide documentation to the customer for their records.

For the 2006-2008 program cycle, AC TIME had initiated a contractor training program to help contractors perform advanced diagnostics on air conditioners and on how to sell advanced diagnostic air conditioning maintenance practices to customers. This training would be continued and expanded for 2009-2011. AC TIME is investigating coordinating with organizations that focus on quality and will establish a certification program for HVAC contractors to participate in the program. In the spirit of market transformation the certification program will be phased in during the course of the program cycle to ensure the contractor community has the opportunity to fully participate in the Program.

- **Strategy 2-2: Launch a consumer marketing and education campaign to support the brand and stimulate market demand**

AC TIME has a marketing program directed towards consumers to help them understand the value of quality installation and diagnostic-driven maintenance. Contractor will coordinate with any approved statewide effort as such becomes available.

In particular, the Program addresses the following Strategies identified in the Energy Efficiency Strategic Plan:

- By improving the performance of the existing air conditioning and installing more efficient new air conditioning, this program enhances the objective of reaching the Zero Net Energy homes. (2. Residential Sector Strategies 1.1, 3.1, 3.3, and Low Income Strategy 1.1)

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- Promotes quality HVAC installation/maintenance and improves code compliance for peak load efficiency and performance (6. Heating, Ventilation and Air Conditioning, Strategies 2.3, 2.4, 3.1, and 4.3)
- Program aims to facilitate adoption of cost-effective sustainability design, development and operations. (7. Codes and Standards, Strategy 2.1)
- Program will train contractors on program measures and tools and will investigate instituting a certification program. (9. Workforce Education and Training, Strategy 1.2, 1.3, and 2.1)
- Relies on workshops in recruiting HVAC contractors for the program and educating them on quality installation issues. (10. Marketing, Education, and Outreach, Strategy 1.3)
- Creates demand for new air conditioning technologies. (11. Research and Technology, Strategies 1.4, 2.1, 2.2, 2.3, and 2.4)

AC TIME will explore other initiatives and participate where such opportunities arise. The air conditioning industry has been called on by the Energy Efficiency Strategic Plan to create industry task forces to ensure the development of diagnostic protocols and to develop new and emerging HVAC technologies.

6) Program Implementation

a) Statewide IOU Coordination

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing materials
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. To the extent that this program may share common elements with the IOU's other third party programs or core or third party programs in other IOU service areas, the Program will strive to coordinate similar activities.

There is a current effort between the Investor-Owned Utilities (IOUs) to develop a statewide Program Implementation Plan (PIP) for HVAC services. This program will endeavor to become an active participant in the proceeding and to contribute to the industry throughout California and the western region of the United States.

New codes and standards have a direct impact on the program as the implementation of the 2008 codes will begin as the Program starts up. Code-based efficiency requirements will increase during the course of the Program. In addition, implementation issues are being worked between the California Energy Commission (CEC), local jurisdictions, and

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third party contractors that should result in an increase in enforcement of the state energy efficiency codes (relative to past iterations).

As new air conditioner technologies diffuse into the market, AC TIME will take advantage where feasible. For example, air conditioners with embedded diagnostic chips are moving into the marketplace. While there have not been enough units in the field at this point to make reliance on them feasible, Contractor will work closely with air conditioner manufacturers to adopt protocols for effective capture of information from these machines. With regards to diagnostic tools, an increasing number of tools capable of doing advanced diagnostics are coming on the market. Contractor will consider how these tools might be incorporated into AC TIME without sacrificing the integrity of the program.

The Energy Efficiency Strategic Plan calls for a number of initiatives to be conducted by a number of parties during 2009-2011. These initiatives include aspects of AC TIME such as standards, branding, marketing, and certification. Program staff endeavors to support and actively participate in these initiatives. At this point there is no statewide program for HVAC tune-up and maintenance; however, as the statewide initiatives unfold Contractor will participate fully. Contractor maintains regular contact with many parties in the industry, including contractors, distributors, IOUs, and other relevant market players interested in energy efficiency issues.

b) Program Delivery Mechanisms

i. Emerging Technologies program

Not applicable to this third-party program.

ii. Codes and Standards program

Codes and standards have a profound impact on programs such as AC TIME. Minimum efficiency levels of new A/C equipment, in part, are specified by the State's Title 24 code. Through statewide HVAC PIP program development we expect the IOUs and associated parties to effect influence on the development of prevailing codes and standards pertaining to new HVAC equipment, as well as, emerging developments in equipment operations and maintenance.

iii. WE&T efforts

Not applicable to this third-party program.

iv. Program-specific marketing and outreach efforts (provide budget)

Not applicable to this third-party program.

v. Non-energy activities of program

Not applicable to this third-party program.

vi. Non-IOU programs

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The Energy Efficiency Strategic Plan calls for a number of near-term tasks and initiatives for the HVAC Market Sector. These tasks and initiatives are directly related to the activities of AC TIME, both near-term and long-term. The adoption of advanced diagnostic methods and quality installation are key aspects of AC TIME and are a central part of the Strategic Plan. Program staff maintain contact with the working groups (or participate in these groups) that are preparing deliverables, such as, a statewide Program Implementation Plan (PIP) for HVAC programs to ensure the program has a continuous line of communication with those performing this and other critical tasks.

Public Interest Energy Research (PIER) has actively pursued projects exploring the energy efficiency of HVAC systems. The Program will work with PIER related activities, where feasible, to advance the energy efficiency of HVAC Operating & Maintenance (O&M) practices and HVAC selection and installation practices.

It is expected to see the effects of training and certification of technicians by year three (3) of this Program. This should continue through the following three years when the market will be well on its way to being transformed.

vii. CEC work on PIER
Not applicable to this third-party program.

viii. CEC work on codes and standards
Not applicable to this third-party program.

ix. Non-utility market initiatives
Not applicable to this third-party program.

c) Best Practices

Contractor leverages lessons learned by employing an adaptive program design approach, where adjustments to the program design are made continuously. Contractor will review participation and maintain continuous communications with contractors, customers and distribution channels to ensure the program is working. The adjustments are intended to improve the performance of the program.

d) Innovation

A key innovative feature of AC TIME is its focus on contractor training to improve the technical capabilities of the contractor market, thereby ensuring maximized load impacts from the program. This is crucial, as the Program relies on the execution of new methods that have been available to the market in various forms for a number of years, but not consistently practiced by contractors. Contractor will extend the training program established during the 2006-2008 AC TIME Program. Such training will focus on

2009-2011 Energy Efficiency Programs Residential HVAC Tune-up/Quality Installation of New Equipment Program Implementation Plan

advancing the knowledge and skill of the technician to understand how advanced diagnostics work and how to effectively apply that knowledge in the marketplace.

e) Integrated/Coordinated Demand Side Management

The program design will achieve integrated delivery of all DSM options through the use of bundling and pricing to affect the decision to implement more comprehensive Energy Efficiency options.

The area with the greatest potential of capturing lost opportunities occurs with the Quality Installation measure for newly installed high efficiency air conditioners. The mechanics of HVAC system installation are such that problems leading to inefficient operation are likely to go undetected for several years, when they may (or may not) lead to comfort problems. It is relatively easy and inexpensive to prevent these problems during installation.

Similarly, the entire HVAC maintenance business can be viewed as one very large lost opportunity. Each year, purportedly qualified technicians service thousands of residential and packaged commercial air conditioners in the Company's service territory using traditional methods, at a societal cost of millions of dollars. This enterprise could yield enormous energy savings, but it yields less savings than expected due to lack of technical and sales training, and appropriate tools. This Program has the clear potential to change that situation. AC TIME will phase-in an intensive training program that culminates in the certification of technicians to participate in AC TIME. The certification process will be fully implemented towards the end of the Program to ensure each sufficient training opportunity for the technicians in the service area.

f) Integration Across Resource Types (energy, water, air quality, etc)

N/A.

g) Pilots

AC TIME is exploring the use of pilot projects to expand the understanding of how certain very highly efficient A/C units are installed and operate in the field. Contractor envisions monitoring the pilots for energy use and other operating parameters to better understand how these very highly efficient A/C units work.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after

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the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program

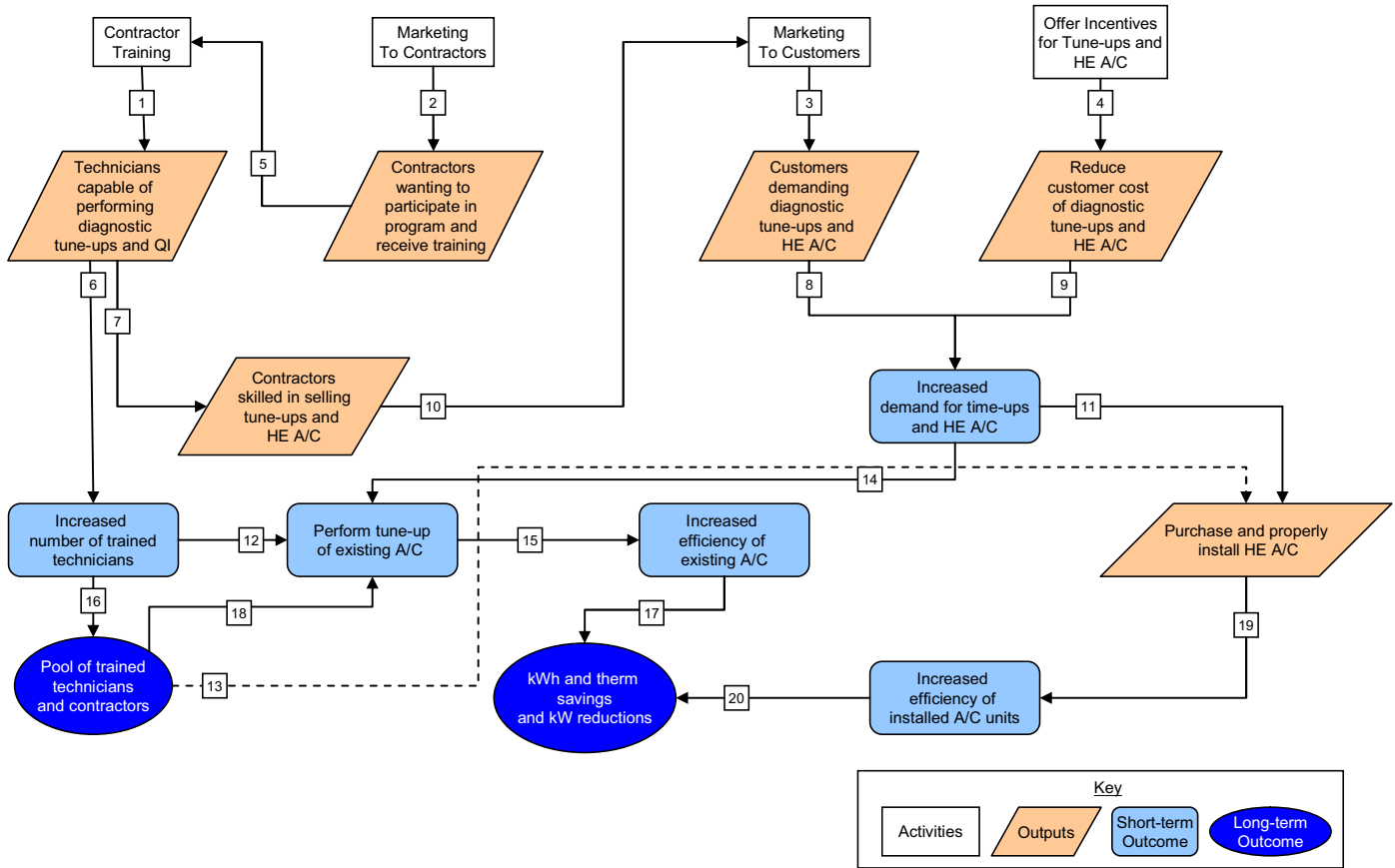
No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

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8) Program Logic Model:

**Figure 4
AC TIME Program (KEMA Res HVAC) Diagram**

	External Factors: Low consumer awareness, low contractor awareness, cost, lack of trained technicians, lack of contractor sales skills, changing codes and standards increasing the level of efficiency of new A/C equipment, as well as the cost needed to attain these efficiency levels.	
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**Table 4
AC TIME Program (KEMA Res HVAC) Program Logic Model**

Link Number	Program Theory Description
1	HVAC technicians are not sufficiently trained to perform A/C tune-ups using neither advanced diagnostic techniques nor quality install methods for specifying and installing new air conditioners. Technical and sales training will increase contractor knowledge in performing and selling program offerings.
2	Increase in contractor awareness, or attitude towards advanced diagnostics, HE A/C and quality installation. Information provided will be useful to the contractor in making their decision to participate in the program.
3	Customers are unaware of the benefits of specific HVAC services and equipment. The marketing component is focused on getting the word out that there are various services that can help increase the efficiency and comfort of their homes. Also, the marketing of the fact that there are trained contractors available to perform these services.
4	Incentives reduce cost of tune-ups and quality installations, and the first cost of HE A/C, increasing likelihood of the customer participating in the program.
5	Contractors decide to attend program training opportunities.
6	Technical diagnostic training for contractors and technicians improves the ability of contractors to provide program offerings to customers. Diagnostic training supplements the contractors existing knowledge of HVAC systems and helps ensure the A/C units are properly tuned per program guidelines that are more rigorous than current standard practice.
7	Sales training for contractors enhances the contractors' abilities to effectively sell energy efficient products, specifically, A/C tune-ups using advanced diagnostics, quality installation, and HE A/C units.
8	Program marketing to customers increases awareness of the program opportunities and benefits.
9	Incentives reduce cost of tune-ups and quality installations, and the first cost of HE A/C.
10	Contractor-driven marketing to customers increases awareness of the program opportunities and benefits.
11	Customers purchase and have installed properly sized, HE A/C.
12	Increased numbers of trained technicians, capable of properly performing tune-ups using advanced diagnostic techniques, increases the capacity of the number of tune-ups that can be performed.
13	Pool of trained technicians will provide new technicians an opportunity to perform quality installation of highly efficient A/C units.
14	Increased demand for tune-up of existing
15	Tune-up is performed by trained technician, ensuring A/C unit is operating at optimal efficiency.
16	Trained technicians increase the pool of available technicians to perform A/C tune-ups based on advanced diagnostic techniques.
17	When existing A/C systems are tuned to optimal efficiency energy savings and demand reductions are a result.
18	Technicians from the pool of trained technicians and contractors perform advanced diagnostic tune-ups on existing A/C units.
19	New A/C units that are installed using quality installation guidelines increase the overall energy efficiency of A/C units installed in the market.
20	Increasing the efficiency of installed A/C units results in energy savings and demand reduction.

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- 1) Program Name: SDG&E Lodging Energy Efficiency Program
 Program ID number: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes08 - Lodging Energy Efficiency Program (LE)	106,519	79,546	202,947	0	389,012
	TOTAL:	\$ 106,519	\$ 79,546	\$ 202,947	\$ -	\$ 389,012

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes08 - Lodging Energy Efficiency Program (LE)			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs

Lodging Energy Efficiency

Program Implementation Plan

a) Describe program

The Lodging Energy Efficiency Program is a comprehensive energy efficiency retrofit program that delivers multi-measure retrofits and retro-commissioning services to medium and large lodging facilities. The Program provides an integrated approach to energy efficiency, demand response and distributed generation specifically tailored to the hotel and motel market segment throughout the SDG&E service territory. The Program focuses on delivering cost-effective energy efficiency savings and the development of demand response and distributed generation opportunities. The Program will provide ENERGY STAR benchmarking to all interested participants and a post-installation savings review to ensure savings persist as a resource that ratepayers can rely upon.

The Lodging Program involves an extensive marketing plan designed to offer the program to all eligible accounts within the SDG&E service territory. A comprehensive energy audit will then be performed at no charge to the lodging account holder. A report will be issued to the hotel/motel operator outlining all recommendations, energy savings, and project economics. Program staff will then coordinate with contractors for the implementation of energy efficiency measures. Once the installation is performed, Program staff will conduct a post-installation inspection to ensure compliance with guidelines. Staff will then submit appropriate invoices to SDG&E and subsequently issue incentive checks to customers based on kWh and therm savings.

Program implementation and delivery will include the following steps:

- Enroll Customers -- Program staff will work with the current hotel customers, the California Hotel and Lodging Association, and SDG&E account staff to identify the highest value targets. The Contractor will implement the marketing plan and utilize the Program marketing materials created to enroll customers that have been screened and identified as qualified.
- Perform Preliminary Program Services -- The team will perform preliminary Program services, which include an analysis of the customer's current energy usage, a cost/benefit analysis, and information about other relevant programs that SDG&E or other third-party providers have that may apply to the customer. At this point, the participant will receive an ENERGY STAR benchmark score of their facility, if requested.
- Installation -- Install energy efficient hardware, issue customer rebates, and/or perform program services
- Project Implementation -- The contractor will deliver energy savings through the installation of energy efficient hardware. The retrofit component will consist of deemed measures, calculated measures, and emerging technologies – all of which will be implemented in a comprehensive manner. Commissioning will also be completed with the retrofit projects.
- Post Installation Verification and M&E coordination -- After implementation is completed, 100% of the projects will be verified.
- Payment of Incentives -- The final incentive amount for projects will be determined by the program implementation team and will depend on existing funding, financing options, customer co-pay, and project energy and demand savings. Since some large facilities tend to have more complex and varied

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projects, and to ensure that interactive effects are captured, the majority of the savings will be realized using calculated approaches. Detailed engineering analyses and savings estimates will be provided for the emerging technologies – higher savings based incentive may be offered for these measures. To ensure that contractors maintain the highest quality controls, incentives will be paid to the contractor after installation has been completed and inspected.

The Program will provide all customers with referrals contractors and other resources should the client wish to use them for the implementation of the energy conservation measures. In those cases where the hotel client has their own contractors, Program staff will assist in the coordination of the installations and facilitation of the customer incentives. To this end, the Contractor will train and build capacity with local contractors to work with the lodging industry. Program staff will work with mechanical, lighting, general, and electrical contractors so that they are prepared and able to deliver energy efficiency services to the lodging industry.

In addition to program implementation, the Contractor will provide the following services:

- Invoicing and Reporting (Installation Stage) -- Invoices will be sent to SDG&E on a monthly basis. The Contractor will report on the Program monthly, as well as submit invoices based on tasks outlined in the “Scope of Work” document.
- Perform Customer Satisfaction Surveys -- Customer satisfaction surveys will be conducted so that participants may comment on the Program and the contractor. The results of the survey will be entered into the database management tool.
- Address Customer Satisfaction Issues – The Contractor will identify any customer satisfaction issues, and work closely with contractors and customers to assure that any issues are appropriately resolved. The Contractor will also provide information of sources for remedy through SDG&E.
- Participate in Educational Events and Trade Shows -- Program staff will participate in events that highlight emerging technologies and trade shows where the lodging industry and contractors avail themselves of information on current products and services. This will enhance the Program marketing efforts as well as provide diverse industries with valuable information on marketing energy-efficiency products and services.

b) List measures (technologies and corresponding incentive levels)

The following measures will be offered to lodging customers along with the corresponding incentive levels:

Measure	Incentive Level
Lighting (CFLs, tubes, controls)	\$0.07/kWh, \$0.075 with kicker*
Retro-Commissioning	\$0.10 per square foot-investigation/\$0.05 per square foot for implementation
Dual speed pool pumps	\$0.095/kWh, \$0.10/kWh with kicker*
Package AC replacements	\$0.14/kWh, \$0.145/kWh with kicker*

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Measure	Incentive Level
Vending machine controls	\$0.095/kWh, \$0.10/kWh with kicker*
Premium efficiency motors	\$0.095/kWh, \$0.10/kWh with kicker*
Efficient ice machines	\$0.095/kWh, \$0.10/kWh with kicker*
Boiler controls	\$0.85/therm, \$0.90/therm with kicker*
Boiler and cooking appliance tune-ups	\$0.85/therm, \$0.90/therm with kicker*
Pipe wrap and other weatherization	\$0.85/therm, \$0.90/therm with kicker*
Appliance upgrades	\$0.85/therm, \$0.90/therm with kicker*
Faucet aerators/showerheads	\$0.85/therm, \$0.90/therm with kicker*

** To motivate rapid completion of energy-efficiency projects kicker applies to projects completed prior to May 31, 2009.*

c) List non-incentive customer services

The following non-incentive services are offered to lodging customers by the Program:

- Free comprehensive energy-audit;
- Customer education on energy-efficiency and sustainability;
- Continuous monitoring of installed energy-efficiency equipment;
- Continuous direction to other SDG&E and local water board incentives;
- Water conservation advice and education, and
- Information on loans specific for energy-efficiency projects.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

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The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available

c) Program Design to Overcome Barriers:

Smaller hotels have indicated that they normally lack the budget to replace their older heating, ventilation, and air conditioning systems with newer units and have been confined to replacing these as their useful life comes to an end. Even then, the operators have indicated that they have not purchased the ENERGY STAR models due to their marginal higher cost.

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Barrier	Solution
Lack of consumer awareness of energy inefficiencies and how to correct them	The Program will work closely with all stakeholders in the hotel/motel market sector.
Lack of financing for energy efficiency improvements	This Program will provide incentives for lodging facilities to implement energy efficiency measures.

d) Quantitative Program Targets:

Table 5

Lodging Energy Efficiency	Program Target by 2009	Program Target by 2010	Program Target by 2011
Number of Energy Audits	105	N/A	N/A
Lodging Customers Contacted	200	N/A	N/A
Number of CFLs Installed	10,000	N/A	N/A
Feet of Pipe Wrap Installed	15,750	N/A	N/A

Note: Values provided represent yearly targets. This is a one-year program.

e) Advancing Strategic Plan goals and objectives:

This Program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
By using ENERGY STAR benchmarking, the Program is utilizing a tool that encourages behavioral changes and measure installation.	Commercial	50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.	2-5: Develop tools and strategies to use information and behavioral strategies, commissioning, and training to reduce energy consumption in commercial buildings.
Program provides a platform for delivering comprehensive multi-measure retrofits and retro-commissioning.	Commercial	50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.	2-7 Develop business models and supplier infrastructure to deliver integrated and comprehensive "one-stop" energy management solutions

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Program facilitates incorporation of emerging technologies.	Heating, Ventilation, and Air Conditioning	New climate-appropriate HVAC technologies (equipment and controls, including system diagnostics) are developed with accelerated marketplace penetration.	4-3: Accelerate market penetration of advanced technologies by HVAC industry promotions and updating/expanding current utility programs to include the new technologies as appropriate.
Program utilizes whole building audits to identify multiple resource savings opportunities - EE, DR, water.	Coordination	Deliver integrated DSM options that include efficiency, demand response, energy management and self generation measures, through coordinated marketing and regulatory integration.	1-3: Develop integrated DSM programs across resources, including energy, water, and transportation.
Program facilitates incorporation of emerging technologies.	Research & Technology	Conduct targeted emerging technologies R&D to support the Big, Bold Energy Efficiency Strategies/Programmatic Initiatives and integrated energy solutions goals.	2-4: Develop initiatives aimed at emerging technologies to support Big Bold Initiatives.

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

Program staff will promote lodging efficiency to the contacts made both in the SCE and PG&E service territories in an effort to provide extensive coverage to all chain accounts and members of the statewide hotel associations. This will greatly facilitate our marketing efforts for the benefit of all three lodging energy efficiency programs operating in California.

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To promote the sustainability of the Lodging Energy Efficiency Program and its brand, Program staff will work with several other agencies both local and state, to further the goals of this Program consistent with the vision of the California Energy Commission. This will ensure that energy efficiency considerations take an active role in any remodeling or reconstruction projects that may involve other agencies.

This Program will also be promoted as an effort to improve our air and water quality by reducing greenhouse gas emissions of and other pollutants via energy conservation. To this end, the Program will collaborate with the California Air Resources Board and the Air Quality Management Districts as a vehicle to facilitate the goals of these agencies in the lodging market sector.

Program staff will work to cross promote other energy conservation programs offered by SDG&E in order to optimize the penetration of the portfolio of energy efficiency programs that may serve the lodging industry. Program staff will work with the SDG&E Account Executives to ensure that lodging customers are familiar with all programs that may be of benefit to them.

In addition, Program staff will work with all local water agencies within SDG&E service territory to leverage resources for water conservation which in most cases results in natural gas savings. The various rebates offered by these water agencies will also be offered to the hotels particularly in those measures that result in gas savings.

b. Program delivery and coordination:

i. Emerging Technologies program

The 2009-2011 Program staff will work with the Emerging Technologies Coordinating Council in order to streamline and facilitate the latest technology to the lodging industry. The Contractor will provide feedback to the Council on formulating best practices in working with the lodging industry. This will establish an effective guide on working with the lodging industry that can be adopted statewide and extended to other targeted market sectors.

ii. Codes and Standards program

Program staff will work closely with several other Third-Party and core programs to facilitate a comprehensive cadre of services to the lodging customers. This will ensure that all possible energy conservation opportunities are presented to the customer and that each measure is supported by an SDG&E incentive. Furthermore, the Program will be outreaching to other utility and non-utility bodies that also have an interest in energy conservation and the reduction of greenhouse gas emissions. This will include coordinating with the Codes and Standards program.

iii. WE&T efforts

Program staff will work closely with several other Third-Party and core programs to facilitate a comprehensive cadre of services to the lodging customers. This will ensure that all possible energy conservation opportunities are presented to the

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customer and that each measure is supported by an SDG&E incentive. Furthermore, the Program will be outreaching to other utility and non-utility bodies that also have an interest in energy conservation and the reduction of greenhouse gas emissions. This will include coordinating with the WE&T efforts.

iv. Program-specific marketing and outreach efforts (provide budget)

The Contractor will initiate a marketing campaign employing site visits (in-person, door-to-door visits with SDG&E staff), California Hotel and Lodging Association and other program partner membership/business relationship networking, and community networks of local organizations, agencies, and business associations to cost-effectively reach hospitality owners within SDG&E's territory.

The marketing plan will leverage: 1) the existing lodging efficiency program in SDG&E's territory and the PG&E Lodging Savers Program to target large and medium hotel customers; 2) work closely with Account Representatives to access hotel staff and distribute information to the hotels; and 3) leverage California Hotel and Lodging Association and the Asian-American Hotel Owners Association to distribute information to the targeted hotels and make them aware about the Program. Program marketing personnel will explore communication channels through the associations to provide awareness to members and contractors working with the lodging industry. Examples might include a news release announcement and display ad for placement in the associations' newsletters and on their websites, and participation in their annual conferences.

A cornerstone of the marketing plan is a simple message explaining the savings and environmental benefits of the Program, as well as a discussion of targeted goals. The plan will utilize several marketing platforms for relaying this dialogue, including:

- Direct customer communications via the media;
- Customer service hotlines;
- Advertising on SDG&E's website;
- Utility bill inserts and direct mail, and
- Hard-to-reach and non-English speaking customer markets will be reached via specialized marketing and networking efforts, including multi-language marketing collateral, community association solicitations, and/or referrals from other SDG&E programs.

The marketing plan will pursue three parallel tracks to enroll customers in the Program. The first track will be to engage the hotel associations with whom team members have existing long-standing, professional relationships. The second track will involve a general awareness marketing campaign with the leading membership associations representing the target market. A third track will primarily include working closely with SDG&E Account Executives to further initiate/build enrollment. The Program expects to enroll an estimated 20 large hotels.

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v. Non-energy activities of program
Not applicable to this third-party program.

vi. Non-IOU Programs

Program staff will work closely with several other Third-Party and core programs to facilitate a comprehensive cadre of services to the lodging customers. This will ensure that all possible energy conservation opportunities are presented to the customer and that each measure is supported by an SDG&E incentive.

Furthermore, the Program will be outreaching to other utility and non-utility bodies that also have an interest in energy conservation and the reduction of greenhouse gas emissions. This will include coordinating with the CARB, AQMD, and other non-utility market initiatives.

vii. CEC work on PIER

The Program will work closely with the California Energy Commission's Public Interest Energy Research Program (PIER) to leverage additional resources for customers. This will provide our lodging customers with additional opportunities for integrating newer energy-efficient technologies and for conducting energy-related research projects.

viii. CEC work on codes and standards

Not applicable to this third-party program.

ix. Non-utility market initiatives

Initiatives established by the State of California to reduce greenhouse gas emissions (GHG) will be one of the centerpieces for the marketing of the Lodging Energy Efficiency Program. Although most utilities have subscribed to the correlation between energy consumption and GHG emissions, it will be the goal of 2009-2011 Program to further underscore this relationship. GHG reductions resulting from energy savings will be incorporated in all marketing material including brochures, flyers, and this message will be further emphasized when meeting face-to-face with customers. Energy savings reports based on facility audits will also include information on GHG emission reductions that are possible with the implementation of energy efficiency measures.

c. Best Practices:

This Program incorporates a variety of best practices, including:

- Program Theory and Design: The Program has a sound program plan, links its strategic approach to policy objectives and constraints, and maintains program design flexibility to respond to changes in the market and other factors.

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- Program Management - Project Management: The Program has clearly defined program management responsibilities to avoid confusion as to roles and responsibilities and will use well-qualified engineering staff.
- Program Management - Reporting and Tracking: The Program will define and identify key information needed to track and report early in the program development process and has designed program tracking systems to support the requirements of evaluators as well as program staff.
- Effective Marketing Strategies - The Program will incorporate the most effective marketing strategies and will implement the “lessons learned” from the 2008 Program, as well as those from the 2006-2008 Lodging Savers Program in the PG&E service territory.

d. Innovation:

The proposed Program includes several innovative features that create a comprehensive approach to overcoming the barriers we find in the field. These features address each target area in a way that brings synergistic value to the solutions:

- A multi-channel marketing process to market energy conservation measures to owners will quickly fill the program pipeline with projects.
- We will provide extensive project-management assistance to owners to keep the projects moving to completion.
- A process that focuses on energy savings and spends additional effort helping owners implement measures.

e. Integrated/coordinated Demand Side Management:

This Program supports the ideals of integrated demand-side management by encouraging customer adoption of a variety of energy efficiency and other energy-related measures. The Contractor understands that the IOUs are facing a challenge to adopt and integrate a statewide energy efficiency strategic plan that not only hits the long-range, programmatic initiatives envisioned by CPUC commissioners, but one that is workable with the current portfolios and delivers shareholder value. Addressing the lodging sector for gas and electricity, this Program realizes the CPUC’s vision by spurring market awareness, increasing the energy efficiency practices, and allowing for continuous integration and expansion of green building practices for solidifying a constant sustainability model within the lodging industry. The combination of realistic energy savings goals, accurate tracking, customer education, and financial incentives will encourage a market transformation with measurable and energy savings.

f. Integration across resource types.

Consistent with CEC expectations of Third-Party Programs, Program staff will work with other resource conservation interests including the various air quality regulatory bodies and water agencies. Specifically, the Contractor will identify and establish relationships

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with key liaisons from the California Air Resources Board, the Air Quality Management District, Metropolitan Water District of Southern California, and the various water providers that serve the San Diego area. Program staff will cross promote water conservation and air quality improvement efforts and participate in events organized by these other agencies. Program field staff will be familiar with other incentive programs offered for water conservation and impart this information to lodging clients.

Program staff will also work with various governmental councils such as the Southern California Association of Governments to promote awareness of this Program and other incentive programs offered by SDG&E. Other groups that will be targeted are the various Councils of Governments that may be representing geographical areas within the SDG&E service territory. Often these councils and associations have committees that deal with energy and water conservation matters. These committees will be powerful advocates in helping spread the word in the energy conservation efforts targeting the lodging industry.

g. Pilots:

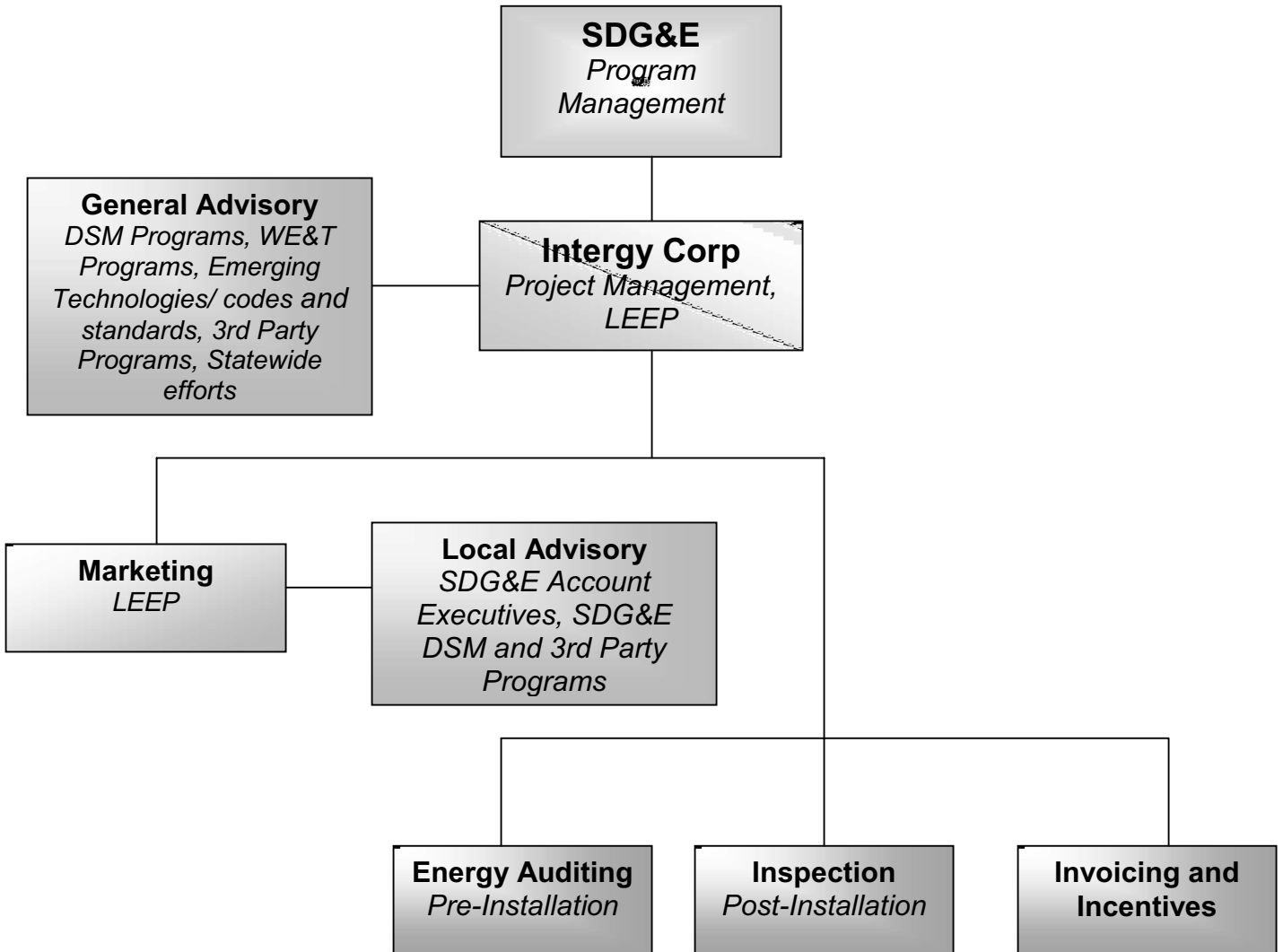
This Program is not planning any pilots.

h. EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

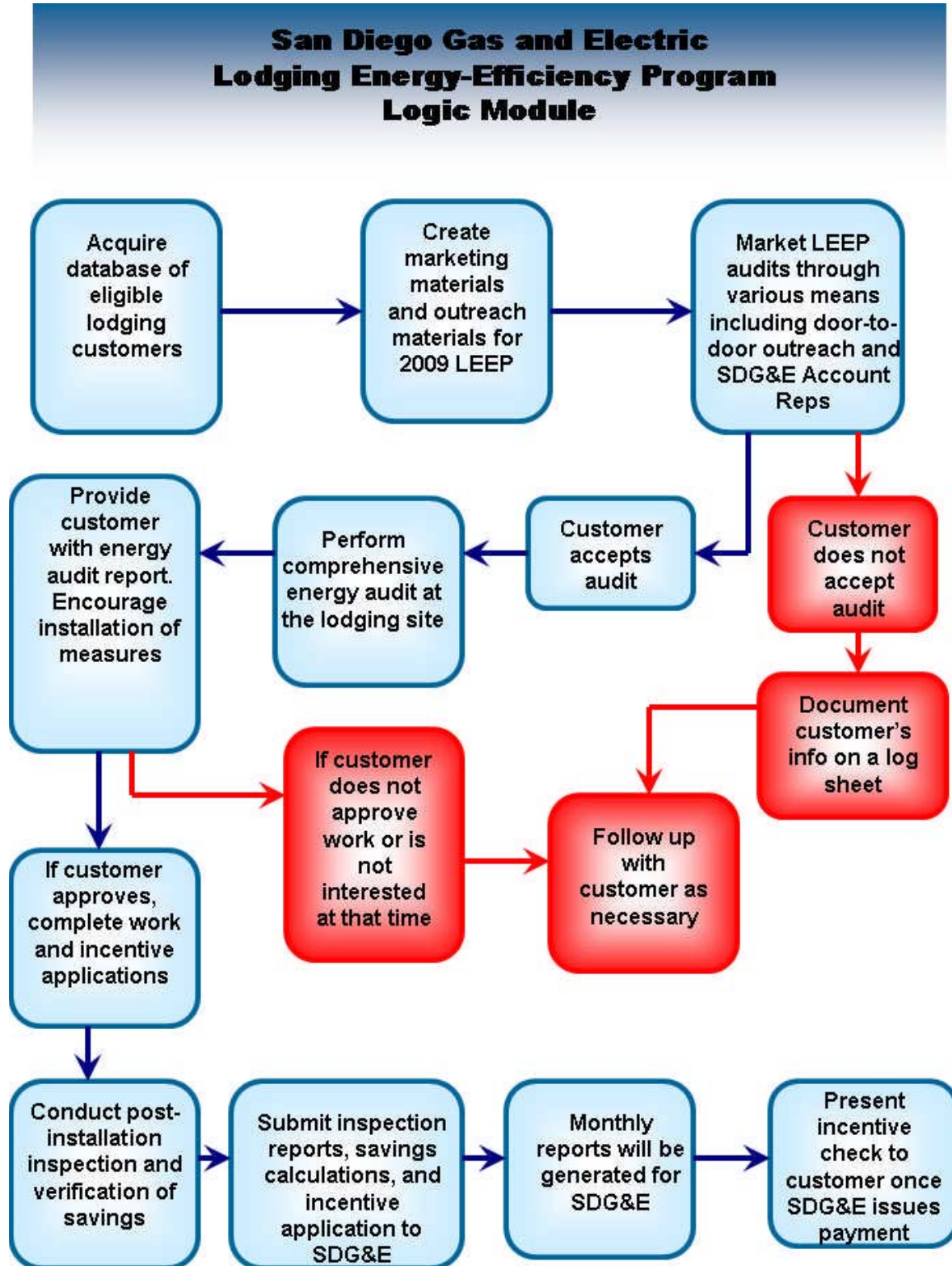
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7) Diagram of Program:



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8) Program Logic Model:



2009-2011 Energy Efficiency Programs Multi-Family Less than 39 Units Retrofit Program Implementation Plan

- 1) Program Name: Multi-Family Less than 39 Units Retrofit
 Program ID Number: TBD
 Program type: Third-Party Program

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-Res05 - Multl-family < 30	1,199,625	621,259	216,796	0	2,037,680
	TOTAL:	\$ 1,199,625	\$ 621,259	\$ 216,796	\$ -	\$ 2,037,680

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-Res05 - Multl-family < 30			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

**2009-2011 Energy Efficiency Programs
Multi-Family Less than 39 Units Retrofit
Program Implementation Plan**

a) Describe program

The Multi-Family Less than 39 Units Retrofit Program will target property management companies and property owner/managers of multiunit complexes with less than 39 units. The objective of the program is to install energy efficiency measures (EEMs) to this untapped market. The Program will deliver EEMs to multi-family units that are traditionally overlooked because of their small size. These units are overlooked because they usually do not have on site managers who will assist contractors with access to their units for installation of energy efficient measures. Additionally many smaller complexes have owners who are retired and would rather make improvements to their structures themselves. Unfortunately, many of these same owners are unfamiliar with utility energy efficiency programs. Explaining the energy saving benefits is one of the values and main role that marketing representatives of the Program will bring to the property owners and managers.

The Multi-Family Less than 39 Retrofit Program is a direct-install program that minimizes the dilemma of potential “split incentives.” The Program will be marketed as a no cost, good value retrofit program that can save energy and energy dollars for both the property owner/manager and tenant.

The types of customers that will participate in the program are:

- Residential customers
- Moderate income households
- Multi-family complexes with less than 39 units
- English and Spanish

b) List measures

Program Energy Efficiency Measures and Incentives

Retrofit Measure Description	# of Units to be installed	Incentive/Rebate per Measure
Lighting		
CFL Interior 5-13 Watt - < 800 Lumens	7,500	\$ 12.25
CFL Interior 14-20 Watt	27,000	\$ 13.75
CFL 23 watt Integral	31,800	\$ 14.50
CFL Interior 21-30 Watt - < 1,600 Lumens	3,500	\$ 17.34
R30 CFL Reflector 13-23 Watt	750	\$ 24.50
R40 CFL Reflector 13-23 Watt	750	\$ 24.50
LED Night Lights	12,000	\$ 8.70
Interior Hardwired Fluorescent Fixture ≥ 30 Watt	15,000	\$ 77.50
Exterior Hardwired Fluorescent Porch Light 13-18 Watt	7,500	\$ 58.00
Torchiere Energy Star (70 watt) Turn-in	750	\$ 108.75
Exit Signs (New) - Common Area	75	\$ 95.00

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Multi-Family Less than 39 Units Retrofit
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Retrofit Measure Description	# of Units to be installed	Incentive/Rebate per Measure
Water Heater		
Faucet Aerators	7,000	\$ 7.25
Water Heating - Showerhead - Low Flow	7,000	\$ 55.50
Common Area Gas Water Heater Controller post 1970	1,500	\$ 203.00
Common Area Gas Water Heater Controller pre 1970	1,500	\$ 203.00
HVAC		
Replaced Air Filter	1,500	\$ 43.50
Typical Refrigerant Charge Adjustment (< ±20% rated charge)	750	\$ 304.50
Energy Star Room Air Conditioner	300	\$1,476.06
Refrigeration		
15 C.F. Refrigerator (> 10 years)	600	\$ 920.75
17 C.F. Refrigerator (> 10 years)	600	\$1,022.25
Vending Machine Controller	300	\$ 304.50
Pool Pump		
Efficient Two Speed Pool Pump	120	\$ 1,087.50

c) List non-incentive customer services

On the scheduled date, Contractor or Contractor’s Representative certified technicians will complete a walkthrough of the home with the customer, and provide an energy efficiency brochure with energy savings tips and information on other Company and California Public Utility Commission (CPUC) energy efficiency programs. Therefore, lost opportunities will be minimized by identifying and installing all feasible measures in each apartment unit and common area of each complex enrolled. This includes the installation of a wide variety of measures that will provide substantial savings and benefits not only to the property owner or manager, but to the tenants as well.

In addition, customer feedback survey cards will be left with each participating property manager or owner upon completion of the installer’s home visit. This survey provides information on overall satisfaction of measures installed, ease of service and explanation of other San Diego Gas & Electric (SDG&E) services. Additionally Contractor will conduct a minimum of 10% quality assurance inspections on completed projects.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric
--	------------------------

**2009-2011 Energy Efficiency Programs
Multi-Family Less than 39 Units Retrofit
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	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

2009-2011 Energy Efficiency Programs Multi-Family Less than 39 Units Retrofit Program Implementation Plan

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

The target market of this Program is multifamily residents living in complexes with less than 39 units and their property owners/managers, a market that has been virtually untapped. The target market is the priority barrier because they are normally not sought out by energy efficiency programs. The reason for this is that the residents living in these units are typically not low-income or are not typical customers that energy efficiency programs reach out to. Property owners/managers do not receive direct benefits of energy efficiency improvements to individual units because they generally do not pay this portion of the utility cost. They are primarily interested in the common area utilities. Property owners/managers are reluctant to spend on unit or appliance improvements prior to “burn-out.” As a group, they are unlikely to write a check for energy efficiency improvements that do not “pay back” within one year or less.

Most of the owners of smaller complexes only have rebate programs available to them for securing discounts to energy efficiency improvements. Often the property owners are older and consider their rental property additional income; and, they take a “hands on” approach to property management and improvements. Owners of these smaller complexes do not have the time or are unwilling to complete required rebate forms, applications and paperwork for the existing Investor-Owned Utility (IOU) sponsored rebate programs.

The Program’s strategy to overcome this problem is a direct install program, with program services provided to the customer at a no cost approach, with minimal paperwork, and no rebate forms to complete. This eliminates waiting for a rebate check or the risk that the rebate program is over-subscribed and participation is curtailed.

The Contractor that will administer the Multi-Family Less than 39 Unit Retrofit Program currently administering a direct install program in Central California, PG&E’s Energy Watch, where similar lighting measures are installed at no cost to the customer in multi-family market segment. The program is going into its third full year and energy savings goals are on track – the approach has been tested and is successful.

Key Program Strategies

The Program approach is based on identifying immediate opportunities for energy efficiency within the target segment. The strategy is to reach a large number of targets at the start of the program and identify property management companies that can be partnered with to conduct a large number of retrofits in a short period of time. At the onset of the contract, relationships will be developed with apartment management associations to secure their endorsement, support and early exposure of the Program to its membership through articles and/or sharing of information during monthly meetings.

2009-2011 Energy Efficiency Programs Multi-Family Less than 39 Units Retrofit Program Implementation Plan

Through this opportunity, the Program will reach a large number of target property owners/managers ahead of the marketing Specialist visits.

Property owner information for the San Diego Area will be secured via a third party database service, DataQuick. This database has been developed and will be used for this Program. This multi-family property information tool will create lead lists of properties and property owners/managers. It can also map the locations to identify areas with the highest density of customers to allow for a quick start to the Program. This database will enable faster start time and enable the marketing specialists to make contacts with the right property owners/managers. The Program will include four marketing specialists to maintain the program. The marketing specialists will be given the lead list from the database. Additionally, they will receive comprehensive training on how best to gain participation from potential customers and overcome rejections. The Program will target areas with the highest concentrations of fewer than 39 unit complexes in the Company service territory using the tool.

Queries will also share information about language and ethnicities, which will assist in approach preparation. The marketing specialists will be scheduling and/or making four daily appointments with property owners/managers. Marketing specialists will introduce the Program and, with property owner/manager permission, perform energy assessments on the units to identify feasible and eligible measures specific to each unit. Program fact sheets will be provided in a bilingual format (English/Spanish) and will assist customers who prefer a language other than English. The Program will include bilingual staff that will effectively communicate with customers in the language of their choice.

Upon property owner/manager approval and enrollment, the Program retrofits recommended by the assessment will be conducted by Contractors or Contractor's Representatives.

The Program will include post installation inspections of retrofitted units and include a property owner satisfaction survey that will be submitted to Company at the end of the program.

- d) Quantitative Program Targets: Provide estimated quantitative information on number of projects, companies, non-incentive customer services and/or incentives that program aims to deliver and/or complete in 2009-11 timeframe. Provide references where available.

Table 5

Multi-family Less than 39 Units Retrofit	Program Target by 2009	Program Target by 2010	Program Target by 2011
# of units served	3000	3300	3600
# of presentations made to Owners, Managers and Management companies	600	650	700

Note: Values provided represent yearly targets.

**2009-2011 Energy Efficiency Programs
Multi-Family Less than 39 Units Retrofit
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e) Advancing Strategic Plan goals and objectives:

The Program advances two of the California Long Term Energy Efficiency Strategic Plan's goals.

Advancing Goal 2: Existing Homes, 2-2: Promote effective decision-making to create widespread demand for energy efficiency measures

The Multi-Family Less than 39 Units Retrofit Program advances this goal by providing energy efficient retrofits of multi-family units (the list of measures available to multi-family units through this program is found in Appendix A – List of Measures). The Program will also market and educate a segment of the residential market that is typically not reached out to and will educate them on energy efficiency and its benefits. Therefore, this Program helps to advance Goal 2.

Advancing Goal 4: High Performance Residential Lighting, 4-2: Create demand for improved lighting products through demonstration projects, marketing efforts, and utility programs.

Again, the Multi-Family Less than 39 Units Retrofit Program advances this goal by providing multi-family units with energy efficient lighting measures and replaces incandescent light bulbs with CFLs (the list of measures available to multi-family units through this program is found in Appendix A – List of Measures). The Program will also market and educate a segment of the residential market that is typically not reached out to and will educate them on high performance residential lighting. Therefore, this program helps to advance Goal 4.

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. To the extent that this program may share common elements with the IOU's other third party programs or core or third party programs in other IOU service areas, the Program will strive to coordinate similar activities.

**2009-2011 Energy Efficiency Programs
Multi-Family Less than 39 Units Retrofit
Program Implementation Plan**

b. Program delivery and coordination:

- i. Emerging Technologies program
Not applicable to this program.
- ii. Codes and Standards program
Not applicable to this program.
- iii. WE&T efforts
Not applicable to this program.
- iv. Program-specific marketing and outreach efforts (provide budget)
- v. Non-energy activities of program
Not applicable to this program.
- vi. Non-IOU Programs
Not applicable to this program.
- vii. CEC work on PIER
Not applicable to this program.
- viii. CEC work on codes and standards
Not applicable to this program.
- ix. Non-utility market initiatives
Not applicable or need text.

c. Best Practices:

The Multi-Family Less than 39 Units Retrofit Program incorporates a variety of best practices, including:

- Program Theory and Design: The Program has a sound program plan, links its strategic approach to policy objectives and constraints, and maintains program design flexibility to respond to changes in the market.
- Program Management - Quality Control and Verification: The Program bases its quality control on its relationship with subcontractors, number of vendors involved, types of measures, project volume, and variability of project size.
- The Program will establish benchmarked standards for installation subcontractors and ensure compliance with codes and standards.

d. Innovation:

This Program is innovative because it take advantage of lost opportunities by identifying and installing all feasible measures in each apartment unit and common area of each complex enrolled. This includes the installation of a wide variety of measures that will

**2009-2011 Energy Efficiency Programs
Multi-Family Less than 39 Units Retrofit
Program Implementation Plan**

provide substantial savings and benefits not only to the property owner or manager, but to the tenants as well. These long-term efficiencies will include the replacement of Energy Star® refrigerators and air conditioners. The Program will provide energy saving measures that will directly impact the energy saving habits of both the tenants and manager and owners, such as compact fluorescent fixtures and light bulbs. The program will also replace unsafe and inefficient halogen floor lamps with CFL Torchieres.

In addition to measure installations, the Program will develop relationships with industry associations and will reach out through trade magazines and newspapers to give property owners/managers within this target segment every opportunity to participate.

e. Integrated/coordinated Demand Side Management:

The Multi-family Less than 39 Retrofit Program has access to Company's Heat System. Using this system Contractor is able to determine which measures if any have been installed within a complex. Additionally, our Marketing Representatives give owner-manager information to the low income program when the complex has a majority of tenants that would qualify for their program.

f. Integration across resource types (energy, water, air quality, etc):

Not applicable to this program.

g. Pilots:

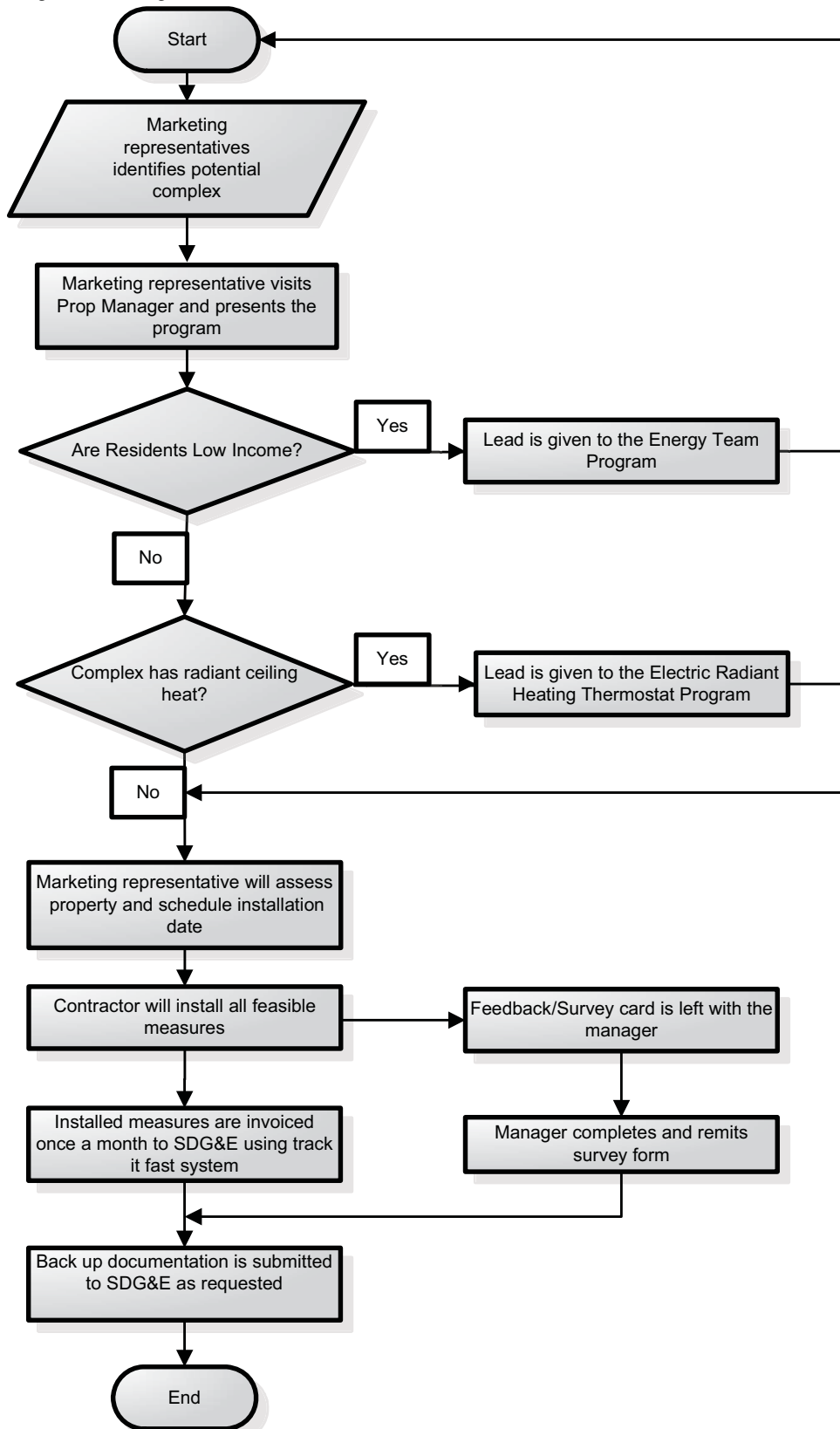
Not applicable to this program.

h. EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

2009-2011 Energy Efficiency Programs Multi-Family Less than 39 Units Retrofit Program Implementation Plan

7) Diagram of Program:



**2009-2011 Energy Efficiency Programs
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8) Program Logic Model:

The third party is an implementation channel and is included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

2009-2011 Energy Efficiency Programs Mobile Energy Clinic for Furniture Stores, Restaurants and Small Retail Program Implementation Plan

- 1) Program name: Mobile Energy Clinic for Furniture Stores, Restaurants, and Small Retail and Service Facilities
 Program ID: TBD
 Program type: Third-Party Program
- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes09 - Mobile Energy Clinic (MEC)	303,094	134,314	2,150,591	0	2,588,000
	TOTAL:	\$ 303,094	\$ 134,314	\$ 2,150,591	\$ -	\$ 2,588,000

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes09 - Mobile Energy Clinic (MEC)	316,470	247	0
	TOTAL:	316,470	247	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs

Mobile Energy Clinic for Furniture Stores, Restaurants and Small Retail Program Implementation Plan

4) Program Description

a) Describe program

Implemented by Matrix ESI (Contractor), the Mobile Energy Clinic Program (MEC) encompasses three market segments: furniture stores, restaurants, and small retail and service facilities. The Program's goal is to improve energy efficiency (EE) for these business segments throughout the San Diego Electric & Gas (SDG&E) service territory, as they represent a significant, energy-intensive sector of the retail market that has not been specifically targeted by other energy efficiency programs. Contractor's staff will use a combination of marketing strategies to enroll customers in the program. For independently operated businesses, Contractor staff will go door-to-door to provide services on the spot. For chain stores, Contractor will market the program at the corporate level.

The Program will provide the following measures and services:

Furniture Stores

- Lighting: Replace existing incandescent or low efficiency CFLs with high-efficiency lamps.
- Heating, Ventilating, and Air Conditioning (HVAC) Quality Maintenance (QM): Perform low-cost/no-cost maintenance tune-ups such as economizer repair, refrigerant charging, filter replacement, and condenser/evaporator coil cleaning.
- Workforce Education and Training: Assist store management in promoting Compact Fluorescent Lights (CFLs) and other efficient lighting products to their customers.

Restaurants

- Lighting: Replace existing incandescent or low efficiency CFLs with high-efficiency lamps.
- HVAC QM: Perform low-cost/no-cost maintenance tune-ups such as economizer repair, refrigerant charging, filter replacement, and condenser/evaporator coil cleaning.
- Refrigeration: Insulate or replace damaged insulation on refrigerant lines serving walk-in or reach-in refrigerators, coolers and freezers.
- Motors: Install timers to automatically shut off motors during periods of non-activity.
- Water Heating: Insulate or replace damaged insulation on water heater pipes, install timers to lower the hot water temperatures during periods of low/non-activity; replace standard rinse-heads with low-flow rinse heads.

2009-2011 Energy Efficiency Programs

Mobile Energy Clinic for Furniture Stores, Restaurants and Small Retail Program Implementation Plan

- Workforce Education and Training: Present a checklist to restaurant management that covers measures to maximize energy efficiency, including measures that require some capital investment.

Small Retail and Service Facilities

- Lighting: Replace incandescent lighting and low-efficiency CFLs with high-efficiency lamps. Replace incandescent exit sign bulbs with Light Emitting Diodes (LED) bulbs.
- HVAC QM: Perform comprehensive diagnostics and maintenance of HVAC equipment, including refrigerant adjustment, air filter and refrigerant line insulation replacement, condenser and evaporator coil cleaning, outside air damper and economizer adjustment, and thermostat reprogramming.
- Water Heaters/Boilers: Provide boiler cleaning services to applicable facilities such as dry-cleaners.
- Workforce Training and Education: Provide a checklist to the business owner that covers measures to maximize energy efficiency, including measures requiring some capital investment.

The Program will be implemented in the following way:

- Field staff will perform various no-cost/low-cost energy efficiency improvements, as appropriate, free of charge to the customer.
- Field staff will conduct a walk-through evaluation to show the owner/operator other opportunities for saving energy at their store.
- Contractor will use a marketing approach that is tailored to the type of store -
 - For independent stores/restaurants, Contractor will use door-to-door marketing by targeting commercial areas with a high concentration of retail stores and/or a high density of table-service restaurants. Program staff will have all equipment ready to perform the installations, so that service can be delivered on the spot.
 - For businesses that are part of a chain, Contractor will market the program to the energy/maintenance division of the corporation using a personalized approach. This approach uses marketing materials, phone calls, and personal visits (if necessary) to the decision makers to enroll them in the program.
- For the walk-through evaluation of energy efficiency opportunities, a checklist based on established energy auditing procedures will be used to assess energy efficiency improvements and to perform diagnostics on energy-using equipment.
- After the walk-through evaluation, Contractor staff will give the business owner a copy of the checklist showing other energy efficiency actions that they can take. Recommendations regarding energy efficiency improvements are made based on the existing equipment observed.

2009-2011 Energy Efficiency Programs

Mobile Energy Clinic for Furniture Stores, Restaurants and Small Retail Program Implementation Plan

- Worksheets will be completed for the recommended improvements, which estimate the potential energy savings and payback periods.
- Before providing any services to a customer, each customer will be asked if he/she has received similar services from other programs, including utility programs and other third-party programs. This will prevent any duplication of services from other programs.
- Contractor will also provide information on SDG&E's Energy Efficiency and Demand Response program offerings. Contractor staff will review rebate forms and show the decision-maker payment options. A report will be presented onsite so that these recommendations can be discussed with the business owner/operator right away, when these issues are still fresh in their mind.

Information collected from each walk-through visit will be used to analyze the economics of energy efficiency for the different end uses that are specific to the particular facility and to forecast the available savings for a facility. A computer program used to analyze energy and cost savings of the energy efficiency measures has been developed specifically for various types of business facilities. The program uses algorithms that the Contractor has developed using data on the physical and thermal characteristics of small businesses, the results of extensive building energy simulations with Department of Energy (DOE) Model (DOE 2) using weather data specific to SDG&E's service territory, and published monitored end-use data. The program will be used to generate a report for the customer for their information and future consideration of other energy efficiency measures.

As a marketing strategy, appropriate businesses will be identified and the program marketed door-to-door using multilingual staff members. The face-to-face interaction allows the owner/operator of a facility to watch and see what is being done to improve energy efficiency. In addition to the door-to-door marketing, a database of furniture stores and restaurants within Company's service territory will be compiled using internet yellow pages or Google search results. Program flyers will be mailed out to targeted market sector businesses from the compiled database. MEC will be open to customers who show high interest in participation and considerable potential for both energy savings and commitment to implement recommended measures beyond those provided by the Program.

The Program will focus on lowering energy use in existing buildings in the commercial sector, which fits with and is supported by the Public Interest Energy Research (PIER) Buildings Program. In addition, though there is no formal interaction between this Program and the California Air Resources Board, the Program's focus on reduced energy use will in turn reduce the carbon footprint of the serviced facilities, which will improve air quality and mitigate Climate Change.

**2009-2011 Energy Efficiency Programs
Mobile Energy Clinic for Furniture Stores, Restaurants and Small Retail
Program Implementation Plan**

b) List measures

The Program will install no-cost/low-cost measures free of charge to furniture stores, restaurants, and small retail and service facilities. The list of measures includes, but is not limited to, the following:

- Lighting- Replace existing incandescent or low-efficiency CFLs with high-efficiency lamps.
- HVAC Quality Maintenance: Perform low-cost/no-cost maintenance tune-ups, such as economizer repair, refrigerant charging, filter replacement, and coil cleaning.
- Motors: Install timers to automatically shut off motors during the periods of non-activity.
- Refrigeration: Insulate or replace damaged insulation on refrigerant lines serving walk-in and/or reach-in refrigerators, coolers and freezers.
- Water Heating:
 - (i) Insulate or replace damaged insulation on water pipes.
 - (ii) Replace Standard rinse-heads with low-flow rinse-heads. All standard shower heads will be replaced with shower heads with 2.5 gallons per minute (gpm) flow rate or lower.

c) List non-incentive customer services

The Program will provide non-incentive measures such as:

- Energy Audits
- Facility operators/owners training
- Customer report generated and given to the customer describing the installed measures and recommended measures with the corresponding energy savings.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

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Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

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As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

Market research has shown that owners/operators of furniture stores, restaurants, and small retail and service facilities constitute a market segment that is considered to be hard-to-reach and underserved, primarily due to their unresponsiveness towards conventional methods of outreach such as paper advertising. Experience has shown that these businesses have not implemented energy efficiency measures to any great extent, and that there still is a need to work with them to improve energy efficiency. Barriers to implementation are described below:

- The primary interest and concentration of business owners is on maintaining a profitable operation. Since their primary focus is on running their business, these owners generally do not have the time available to attend seminars or to read and digest materials mailed to them.
- Many small business owners are not aware of what changes can be made to improve energy efficiency for their businesses, and what these improvements can do for them.
- Until recently, the costs of energy have not been large enough to be noticed by small business owners.
- Many small businesses in very diverse regions like Southern California are operated by first generation Americans, for whom English may not be the first language. The language barrier can often pose a significant problem that cannot be overcome with a one-size-fits-all marketing method.

One way the Program will overcome the above barriers is by using direct, face-to-face marketing of energy services to small business operators. First, the Program targets high concentrations of eligible businesses, such as strip malls. Then, the program is marketed door-to-door using multilingual staff members. Market research has shown that face-to-face interactions at individual facilities are a very effective way of delivering energy efficiency to owners/operators of small businesses. The face-to-face interaction allows the owner/operator of a facility to see what is being done to improve energy efficiency. Small business owners more readily accept energy efficiency if they are shown how improving their energy use contributes to improving other facets of their business, such as customer comfort and the employee performance and productivity. For example, in retail stores, proper lighting and space conditioning can actually keep shoppers in the store longer, thereby increasing sales. Similarly, in restaurants it can be shown that energy efficient window measures can allow customers to sit next to windows during the middle of summer or the middle of winter without complaints about being “too hot” or “too cold.”

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Barriers are also overcome when businesses receive MEC services free of charge. This provides a compelling reason to commit to low cost improvements. After receiving free services, the customer will be informed on how to maintain and operate their existing equipment efficiently.

d) Quantitative Program Targets:

Table 5 shows the MEC annual targets in terms of number of facilities that will receive no cost/low cost services.

Table 5

MEC for Furniture Stores, Restaurants, and Small Retail & Service Facilities	Program Target by 2009	Program Target by 2010	Program Target by 2011
Furniture Stores Served (#)	30	51	43
Restaurants Served (#)	150	254	215
Small Retail & Service Facilities Served (#)	824	1,388	1,173

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

MEC directly supports the Long Term Energy Efficiency Strategic Plan's (LTEESP) Commercial Sector goals and several cut-crossing sectors. Specifically,

- The Program achieves energy savings at furniture stores, restaurants and small retail and service facilities which are within the commercial market sector and thus supports meeting the commercial sector goals (Section 3 of Strategic Plan- Commercial Sector, Strategy 3).
- The Program diagnoses and maintains HVAC equipment in targeted segments (Section 6 of Strategic Plan- Heating, Ventilation and Air Conditioning, Strategy 2).
- The Program seeks to integrate full range of energy efficiency and demand response (DR) options (Section 8-DSM Coordination and Integration, Strategy 3).
- The Program seeks to work with furniture store management to educate and assist them in promoting CFL and other energy efficient products to their customers (Section 10-Marketing, Education and Outreach, Goal 1).
- The Program seeks to provide information/education to business owners/operators about energy efficiency. A checklist will be provided to the business management that covers measures to maximize energy efficiency including those that require some capital investment (Section 9-Workforce Education and Training, Goal 1, Near Term Implementation Plan, Bullet 4).

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name

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- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:

i. Emerging Technologies program
Not applicable to this program.

ii. Codes and Standards program
Not applicable to this program.

iii. WE&T efforts
In support of Workforce Education and Training (WE&T) efforts, Contractor staff will work with furniture stores managers to assist them in promoting CFL and other efficient lighting products to their customers. Contractor staff will provide restaurant operators and small retail/service facilities owners with a checklist that covers energy-efficiency measures, including those that require some capital investment. The above-mentioned workforce training and education activities are in line with statewide WE&T efforts.

iv. Program-specific marketing and outreach efforts (provide budget)

Program marketing has been assigned a budget of \$211,183 and is described in detail in section 6)a. above. Contractor is not planning on hiring sub-contractors for this Program.

v. Non-energy activities of program

Generation and upgrade of the database and the tracking system constitute the non-energy activities of MEC.

vi. Non-IOU Programs

Not applicable to this program.

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vii. CEC work on PIER

As the Program seeks to improve energy efficiency in existing commercial buildings, it is also aligned with the California Energy Commission's (CEC's) PIER Building Program.

viii. CEC work on codes and standards

Not applicable to this program.

ix. Non-utility market initiatives

The current economic situation (i.e. high energy costs and awareness) has presented the industry with unprecedented opportunities to market and promote energy-efficiency measures, programs, and most importantly, the frame of mind to adopt economic energy-wise strategies that will help sustain the effort into the far future.

c. Best Practices:

The program design incorporates various best practice elements. Specific items include:

- Direct door-to-door marketing approach, which has been identified as one of the best practices for marketing energy-efficiency to hard-to-reach customers.
- Program Theory and Design: The program has a sound program plan, links its strategic approach to policy objectives and constraints, conducts market research, and maintains program design flexibility to respond to changes in the market and other factors.²
- Program Management - Project Management: The program clearly defines program management responsibilities (Contractor is the sole provider) to avoid confusion as to roles and responsibilities and uses well-qualified engineering staff.

d. Innovation:

MEC's innovation lies in the unique face-to-face marketing and onsite delivery of low cost and no cost measures.

e. Integrated/coordinated Demand Side Management:

Since MEC will provide services mainly to retail and restaurant facilities, the potential for demand response is not high. Also, the potential for the on-site generation for these facilities is not anticipated to be high. However, an explicit goal of the Program is to create customer awareness of SDG&E's Energy Efficiency and Demand Response offerings.

² See Volume S – Crosscutting Best Practices Report and Project Summary, National Energy Efficiency Best Practices Study, December 2004, pages S14-15.

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f. Integration across resource types (energy, water, air quality, etc):

Energy conservation will reduce the carbon footprint of facilities served by the Program. Since the program offers energy-efficiency measures for both-electricity and natural gas (which could also have an impact on water usage, such as in low flow rinse heads) the impacts will indirectly assist with water conservation efforts.

g. Pilots:

The Program started in 2006 as a pilot, and later was expanded for the 2006-2008 program cycle. There are no pilot projects associated with this program.

h. EM&V:

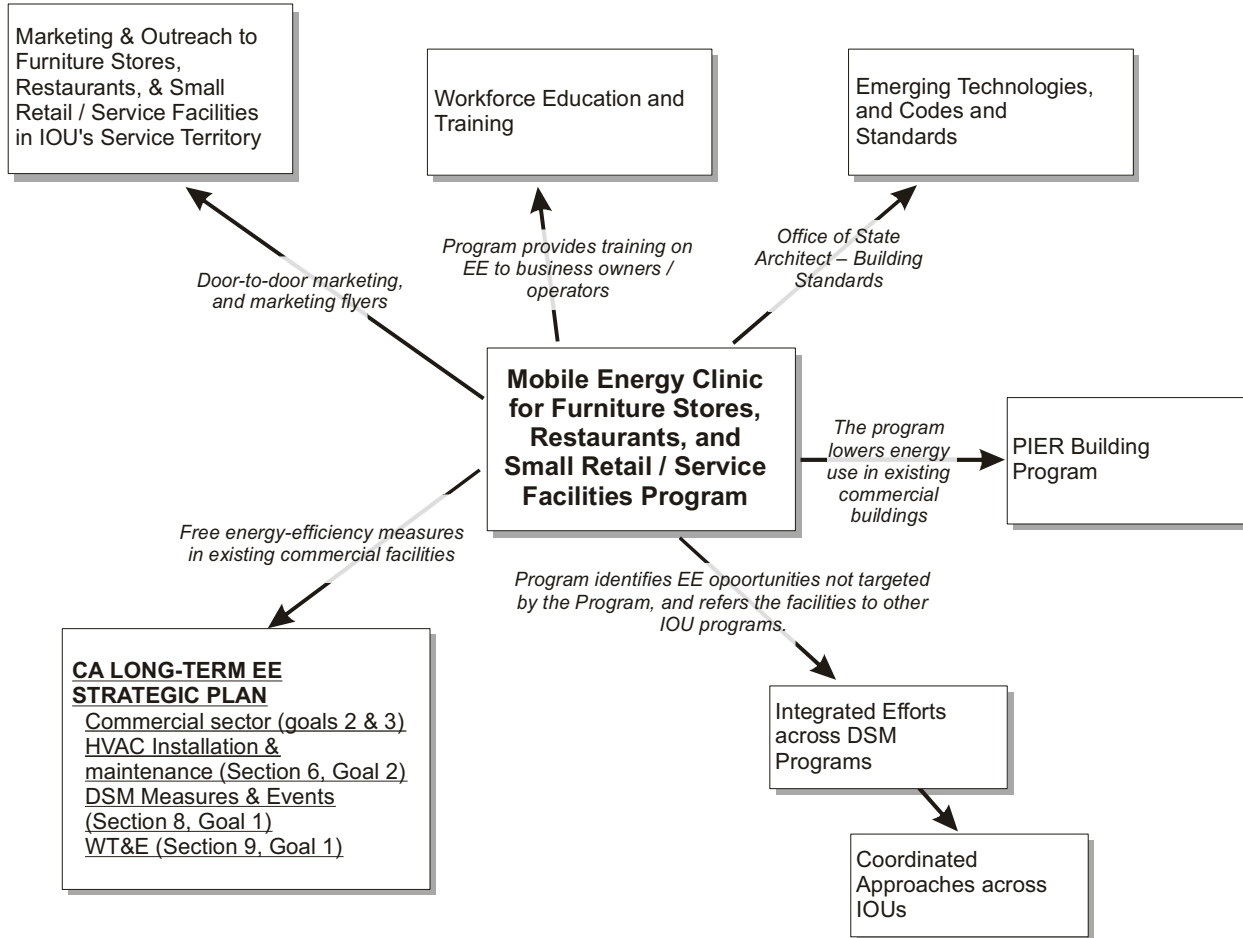
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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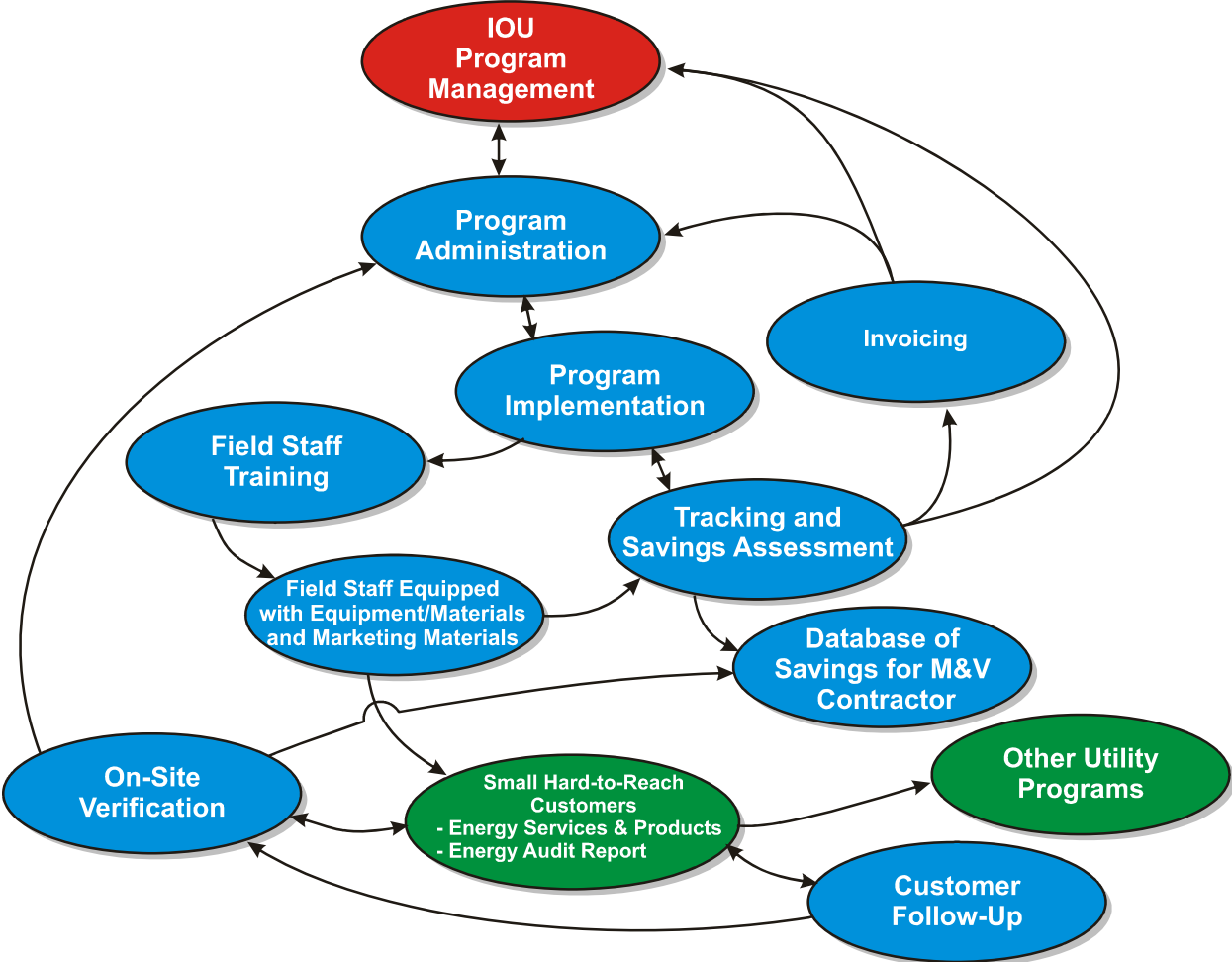
7) Diagram of Program:

The Diagram below illustrates the Program linkages to EE areas/programs:



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8) Program Logic Model:



2009-2011 Energy Efficiency Programs Premium Efficiency Cooling Program Implementation Plan

- 1) Program Name: Premium Efficiency Cooling
 Program ID Number: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes01 - Non-Res HVAC Tune-up/Quality Installa	1,829,566	404,468	61,633	0	2,295,667
	TOTAL:	\$ 1,829,566	\$ 404,468	\$ 61,633	\$ -	\$ 2,295,667

Final third party program budgets are subject to change based on Commission approval and final negotiations

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes01 - Non-Res HVAC Tune-up/Quality Installa			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

- a) Describe program

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for Energy Programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Premium Efficiency Cooling Program Implementation Plan

The Nonresidential Heating, Ventilating, and Air Conditioning (HVAC) Tune-up Quality Installation Program (“Premium Efficiency Cooling Program”) provides all eligible commercial customers in the San Diego Gas & Electric (SDG&E) service area with tools, information and financial rebates to encourage the purchase new high-efficiency HVAC equipment and maintenance of their existing Air Conditioner (A/C) systems at optimal efficiency.

Program objectives will include:

- Reducing barriers to program participation at the midstream and downstream levels,
- Engaging upstream market actors in coordinated marketing and information campaigns,
- Targeting high-yield commercial market segments with vertical marketing strategies that tap into well-established communication networks; and
- Changing contractor and technician practices to embrace improved technical processes and to build these with program support, into their normal operations.

At its core, the program’s scope offers cross-cutting services and rebates to customers to promote quality maintenance and high-efficiency equipment choices. The Program will provide incentives for quality installation and quality maintenance services (up to 63.3 tons per circuit), as well as condenser coil cleaning, evaporator coil cleaning and economizer repairs. Equipment incentives will be available for direct expansion cooling systems (air-source heat pumps or A/C units, mini-split systems, and packaged or split-system units up to 63.3 tons) and evaporative coolers for early retirement, replacement on burnout and above-code installations in previously unconditioned spaces.

These services are delivered through an approach that integrates targeted, vertical marketing through existing distribution channels. This outreach strategy includes a strong emphasis on face-to-face customer contact, integrated with easy-to-use customer tools available on the program website, discounts, financial instruments, and rebates provided by program partners and participating contractors.

Contractor will manage and implement the program, track and report production and energy savings, provide uploads to the Subcontractor Management and Reporting Tool (SMART) system and execute marketing, outreach, training and quality assurance activities. Participating contractors will be given the option of using a participating Verification Service Provider (VSP) or meeting rigorous training and certification requirements through North American Technical Excellence (NATE) or Air Conditioning Contractors of America (ACCA) certification. In the VSP option, the VSPs, acting as program subcontractors, will electronically capture and upload service data, and monitor incoming data for quality assurance. Contractor’s Representatives will provide upstream program support and marketing assistance.

The Premium Efficiency Cooling Program’s key elements include:

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- Upstream incentives and collaborative marketing efforts, including negotiated program pricing available to participating contractors, coordinated mailings and telemarketing, and coordination with suppliers on direct sales to national accounts.
- Midstream training and certification in conjunction with available NATE, ACCA and ENERGY STAR training opportunities.
- Flex-incentives geared to allow customers to participate in the tune-up program at no charge or with little up-front cost, while rewarding contractors and/or distributors for quality and performance.
- Partnership with ENERGY STAR to promote technologies and practices consistent with the ENERGY STAR label.
- Adoption and promotion of industry standards and protocols as published by ENERGY STAR, Consortium for Energy Efficiency (CEE) and ACCA (as feasible and cost-effective) for equipment specifications, quality installation and maintenance.
- Downstream marketing and direct customer contact through established trade associations and communication channels.
- Direct downstream sales and midstream/upstream recruiting via program representatives.
- Downstream financial support through collaboration with Electric & Gas Industries Association (EGIA) to provide low-interest unsecured commercial equipment loans as these become available.
- Coordination with Company's On-Bill Financing program to provide no-interest, no down payment financing for eligible equipment.
- Rebates and point of purchase discounts for end-users delivered through contractors, distributors, or directly through the Program contact center.
- Technical assistance to contractors including training in Quality Installation (QI) and Quality Maintenance (QM) procedures, remedial training, user-friendly energy savings calculators, and quarterly training reviews.
- Technical assistance to customers through user-friendly energy savings calculators, information and tools available on the program website, and links to governmental and third-party information resources on selecting a contractor, calculating the benefits and simple payback periods for energy efficiency investments, and tips for improving energy efficiency.
- Telephone and e-mail support for contractors, program partners and participants through a toll-free telephone line and customer service center where trained program representatives can take applications, provide program information, and respond to web inquiries.
- Multi-port website with secured portals for access by contractors and manufacturers, and a separate public portal for commercial customers.

2009-2011 Energy Efficiency Programs Premium Efficiency Cooling Program Implementation Plan

- Verification of quality installation and tune-up activities through a combination of VSPs, field inspections and field training exercises.
- Detailed, experience-driven program theory and logic model based on recent program experience in the Company and Southern California Edison (SCE) service territories.

Specific measures addressed by this Program include:

- Air Conditioning units up to 759 kBtu/h
- Heat Pumps up to 759 kBtu/h
- Evaporative Coolers up to 759 kBtu/h
- Packaged Terminal AC units (all sizes)
- Packaged Terminal Heat Pumps (all sizes)
- Packaged Economizer units (up to 63.3 ton units)
- Refrigerant Charge testing (split and packaged units, test only)
- Refrigerant Charge Adjustment (split and packaged units)
- Condenser Coil Cleaning
- Evaporator Coil Cleaning
- Economizer Adjustment and/or Repair; and
- Split System Quality Installation (charge optimization on installation).

b) List measures

	Measure	Incentive per ton of cooling
1	Commercial AC <65k single phase split - Climate Zone 6, 7, or 8	\$100
2	Commercial AC <65k single phase unitary - Climate Zone 6, 7, or 8	\$100
3	Commercial AC <65k three phase split - Climate Zone 6, 7, or 8	\$100
4	Commercial AC <65k three phase unitary - Climate Zone 6, 7, or 8	\$100
5	Commercial AC 65k to 134k - Climate Zone 6, 7, or 8	\$100
6	Commercial AC 135K to 239k - Climate Zone 6, 7, or 8	\$75
7	Commercial AC 240k to 759k - Climate Zone 6, 7, or 8	\$50
8	Commercial AC <65k single phase split ER - Climate Zone 6, 7, or 8	\$200
9	Commercial AC <65k single phase unitary ER - Climate Zone 6, 7, or 8	\$200
10	Commercial AC <65k three phase split ER - Climate Zone 6, 7, or 8	\$200
11	Commercial AC <65k three phase unitary ER - Climate Zone 6, 7, or 8	\$200
12	Commercial AC 65k to 134k ER - Climate Zone 6, 7, or 8	\$180
13	Commercial AC 135K to 239k ER - Climate Zone 6, 7, or 8	\$180
14	Commercial AC 240k to 759k ER - Climate Zone 6, 7, or 8	\$150

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	Measure	Incentive per ton of cooling
15	Commercial HP <65k single phase split - Climate Zone 6, 7, or 8	\$100
16	Commercial HP <65k single phase unitary - Climate Zone 6, 7, or 8	\$100
17	Commercial HP <65k three phase split - Climate Zone 6, 7, or 8	\$100
18	Commercial HP <65k three phase unitary - Climate Zone 6, 7, or 8	\$100
19	Commercial HP 65k to 134k - Climate Zone 6, 7, or 8	\$100
20	Commercial HP 135K to 239k - Climate Zone 6, 7, or 8	\$75
21	Commercial HP 240k to 759k - Climate Zone 6, 7, or 8	\$50
22	Commercial HP <65k single phase split ER - Climate Zone 6, 7, or 8	\$200
23	Commercial HP <65k single phase unitary ER - Climate Zone 6, 7, or 8	\$200
24	Commercial HP <65k three phase split ER - Climate Zone 6, 7, or 8	\$200
25	Commercial HP <65k three phase unitary ER - Climate Zone 6, 7, or 8	\$200
26	Commercial HP 65k to 134k ER - Climate Zone 6, 7, or 8	\$180
27	Commercial HP 135K to 239k ER - Climate Zone 6, 7, or 8	\$180
28	Commercial HP 240k to 759k ER - Climate Zone 6, 7, or 8	\$150
29	Packaged Terminal AC <7k - Climate Zone 6, 7, or 8	\$125
30	Packaged Terminal AC 7-15k - Climate Zone 6, 7, or 8	\$125
31	Packaged Terminal AC >15k - Climate Zone 6, 7, or 8	\$125
32	Packaged Terminal HP <7k - Climate Zone 6, 7, or 8	\$125
33	Packaged Terminal HP 7-15k - Climate Zone 6, 7, or 8	\$125
34	Packaged Terminal HP >15k - Climate Zone 6, 7, or 8	\$125
35	Packaged Terminal AC <7k ER - Climate Zone 6, 7, or 8	\$150
36	Packaged Terminal AC 7-15k ER - Climate Zone 6, 7, or 8	\$150
37	Packaged Terminal AC >15k ER - Climate Zone 6, 7, or 8	\$150
38	Packaged Terminal HP <7k ER - Climate Zone 6, 7, or 8	\$150
39	Packaged Terminal HP 7-15k ER - Climate Zone 6, 7, or 8	\$150
40	Packaged Terminal HP >15k ER - Climate Zone 6, 7, or 8	\$150
41	Commercial Evaporative Cooler <65k - Climate Zone 6, 7, or 8	\$100
42	Commercial Evaporative Cooler >=65k - Climate Zone 6, 7, or 8	\$100
43	Commercial Evaporative Cooler <65k ER - Climate Zone 6, 7, or 8	\$150
44	Commercial Evaporative Cooler >=65k ER - Climate Zone 6, 7, or 8	\$150

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	Measure	Incentive per ton of cooling
45	Commercial Packaged Economizer Retrofit - Climate Zone 6, 7, or 8	\$50
46	Commercial RCA test only - Climate Zone 6, 7, or 8	\$9
47	Commercial RCA - Climate Zone 6, 7, or 8	\$35
48	Commercial Condenser Coil Cleaning - Climate Zone 6, 7, or 8	\$18
49	Commercial Evaporator Coil Cleaning - Climate Zone 6, 7, or 8	\$12
50	Commercial Econ Repair - Community College - Climate Zone 6, 7, or 8	\$20
51	Commercial Econ Repair - Secondary School - Climate Zone 6, 7, or 8	\$20
52	Commercial Econ Repair - Hospital - Climate Zone 6, 7, or 8	\$20
53	Commercial Econ Repair - Hotel (Guest Rooms) - Climate Zone 6, 7, or 8	\$20
54	Commercial Econ Repair - Medical Clinic - Climate Zone 6, 7, or 8	\$20
55	Commercial Econ Repair - Office – Large - Climate Zone 6, 7, or 8	\$20
56	Commercial Econ Repair - Retail – 3 Story Large - Climate Zone 6, 7, or 8	\$20
57	Commercial Split System QI - Climate Zone 6, 7, or 8	\$40
58	Commercial AC <65k single phase split - Climate Zone 10, 14 or 15	\$100
59	Commercial AC <65k single phase unitary - Climate Zone 10, 14 or 15	\$100
60	Commercial AC <65k three phase split - Climate Zone 10, 14 or 15	\$100
61	Commercial AC <65k three phase unitary - Climate Zone 10, 14 or 15	\$100
62	Commercial AC 65k to 134k - Climate Zone 10, 14 or 15	\$100
63	Commercial AC 135K to 239k - Climate Zone 10, 14 or 15	\$75
64	Commercial AC 240k to 759k - Climate Zone 10, 14 or 15	\$50
65	Commercial AC <65k single phase split ER - Climate Zone 10, 14 or 15	\$200
66	Commercial AC <65k single phase unitary ER - Climate Zone 10, 14 or 15	\$200
67	Commercial AC <65k three phase split ER - Climate Zone 10, 14 or 15	\$200
68	Commercial AC <65k three phase unitary ER - Climate Zone 10, 14 or 15	\$200
69	Commercial AC 65k to 134k ER - Climate Zone 10, 14 or 15	\$180
70	Commercial AC 135K to 239k ER - Climate Zone 10, 14 or 15	\$180
71	Commercial AC 240k to 759k ER - Climate Zone 10, 14 or 15	\$150
72	Commercial HP <65k single phase split - Climate Zone 10, 14 or 15	\$100
73	Commercial HP <65k single phase unitary - Climate Zone 10, 14 or 15	\$100
74	Commercial HP <65k three phase split - Climate Zone 10, 14 or 15	\$100

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	Measure	Incentive per ton of cooling
75	Commercial HP <65k three phase unitary - Climate Zone 10, 14 or 15	\$100
76	Commercial HP 65k to 134k - Climate Zone 10, 14 or 15	\$100
77	Commercial HP 135K to 239k - Climate Zone 10, 14 or 15	\$75
78	Commercial HP 240k to 759k - Climate Zone 10, 14 or 15	\$50
79	Commercial HP <65k single phase split ER - Climate Zone 10, 14 or 15	\$200
80	Commercial HP <65k single phase unitary ER - Climate Zone 10, 14 or 15	\$200
81	Commercial HP <65k three phase split ER - Climate Zone 10, 14 or 15	\$200
82	Commercial HP <65k three phase unitary ER - Climate Zone 10, 14 or 15	\$200
83	Commercial HP 65k to 134k ER - Climate Zone 10, 14 or 15	\$180
84	Commercial HP 135K to 239k ER - Climate Zone 10, 14 or 15	\$180
85	Commercial HP 240k to 759k ER - Climate Zone 10, 14 or 15	\$150
86	Packaged Terminal AC <7k - Climate Zone 10, 14 or 15	\$125
87	Packaged Terminal AC 7-15k - Climate Zone 10, 14 or 15	\$125
88	Packaged Terminal AC >15k - Climate Zone 10, 14 or 15	\$125
89	Packaged Terminal HP <7k - Climate Zone 10, 14 or 15	\$125
90	Packaged Terminal HP 7-15k - Climate Zone 10, 14 or 15	\$125
91	Packaged Terminal HP >15k - Climate Zone 10, 14 or 15	\$125
92	Packaged Terminal AC <7k ER - Climate Zone 10, 14 or 15	\$150
93	Packaged Terminal AC 7-15k ER - Climate Zone 10, 14 or 15	\$150
94	Packaged Terminal AC >15k ER - Climate Zone 10, 14 or 15	\$150
95	Packaged Terminal HP <7k ER - Climate Zone 10, 14 or 15	\$150
96	Packaged Terminal HP 7-15k ER - Climate Zone 10, 14 or 15	\$150
97	Packaged Terminal HP >15k ER - Climate Zone 10, 14 or 15	\$150
98	Commercial Evaporative Cooler <65k - Climate Zone 10, 14 or 15	\$100
99	Commercial Evaporative Cooler >=65k - Climate Zone 10, 14 or 15	\$100
100	Commercial Evaporative Cooler <65k ER - Climate Zone 10, 14 or 15	\$150
101	Commercial Evaporative Cooler >=65k ER - Climate Zone 10, 14 or 15	\$150
102	Commercial Packaged Economizer Retrofit - Climate Zone 10, 14 or 15	\$50
103	Commercial RCA test only - Climate Zone 10, 14 or 15	\$9
104	Commercial RCA - Climate Zone 10, 14 or 15	\$35

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	Measure	Incentive per ton of cooling
105	Commercial Condenser Coil Cleaning - Climate Zone 10, 14 or 15	\$18
106	Commercial Evaporator Coil Cleaning - Climate Zone 10, 14 or 15	\$12
107	Commercial Econ Repair - Community College - Climate Zone 10, 14 or 15	\$20
108	Commercial Econ Repair - Secondary School - Climate Zone 10, 14 or 15	\$20
109	Commercial Econ Repair - Hospital - Climate Zone 10, 14 or 15	\$20
110	Commercial Econ Repair - Hotel (Guest Rooms) - Climate Zone 10, 14 or 15	\$20
111	Commercial Econ Repair - Medical Clinic - Climate Zone 10, 14 or 15	\$20
112	Commercial Econ Repair - Office – Large - Climate Zone 10, 14 or 15	\$20
113	Commercial Econ Repair - Retail – 3 Story Large - Climate Zone 10, 14 or 15	\$20
114	Commercial Split System QI - Climate Zone 10, 14 or 15	\$40
115	Inspections-Commercial - Climate Zone 6, 7, or 8	\$0
116	Inspections-Commercial - Climate Zone 10, 14 or 15	\$0

c) List non-incentive customer services

1. Technical assistance

- Participating contractors will receive training in QI and QM procedures, remedial training, user-friendly energy savings calculators, and quarterly training reviews.
- Customers will be offered user-friendly energy savings calculators, information and tools available on the program website, and links to governmental and third-party information resources on selecting a contractor, calculating the benefits and simple payback periods for energy efficiency investments, and tips for improving energy efficiency.
- Contractor will provide a multi-port website with secured portals for access by contractors and manufacturers, and a separate public portal for commercial customers.
- Training and quality assurance tools will include close monitoring of quality installation and tune-up activities through participating Verification Service Providers and/or program staff.
- Program participants and partners will have access to telephone and e-mail support through a toll-free telephone line and customer service center where trained program representatives can take applications, provide program information, and respond to web inquiries.

2. Sales support to HVAC contractors including cooperative marketing and direct outreach to promote sales of HVAC equipment and/or services in targeted market sectors.

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3. Financing support through program partners will include low-interest financing as this becomes available for commercial HVAC purchases and coordination with Company's On-Bill Financing program for eligible equipment purchases.
4. Bulk pricing opportunities on hotel/motel HVAC equipment purchases arranged by the Program through participating manufacturers.
5. 100% inspections and delivery of cross-program information to commercial end-users who install new HVAC equipment. Participants will receive literature on other Company programs appropriate to their buildings including demand-response programs, specialty appliance or lighting programs, and other program literature or referral sign-up materials as provided by the utility.
6. Pre-inspections and on-site assistance with reservation forms to support customer participation on an as-needed basis.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and

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administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

HVAC replacement and quality maintenance account for a significant share of the potential energy savings in the commercial sector. In “Options for Energy Efficiency in Existing Buildings” (2005), the CEC reports that Direct Expansion air conditioning and cooling system tune-ups account for roughly 12% of the technical potential for demand savings in commercial buildings. Energy savings potential is less, at 2% to 5% of the technical potential for kWh savings (CEC, Appendix, A-11). Although the kWh savings on these programs might be more cost-effectively obtained through lighting programs, HVAC system replacements and tune-ups offer the unparalleled opportunity to dramatically reduce peak load in a relatively short period of time.

Although HVAC replacement and quality maintenance hold much potential for energy savings, the commercial sector encounters market signals that discourage the purchase and upkeep of efficient equipment. Specifically, customers face negative externalities and information asymmetry with respect to their HVAC equipment, as described below.

- An older HVAC unit or equipment not tuned at manufacturer specifications is significantly less efficient than HVAC units available on the market today or existing units that are properly tuned. Although the customer pays more on average to operate these inefficient units, negative externalities such as increased demand and the associated effects of wasted energy and/or reliability problems

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are borne by other ratepayers and the community at large. The negative externality creates impetus for consumers to do nothing. Routine maintenance activities are conducted without a critical eye toward optimizing the charge and performance of the units; replacements are delayed until the units are no longer repairable, and the least efficient units on the market are selected on an initial-cost basis.

- The second critical market failure is information asymmetry. Customers may not understand the value of an HVAC tune-up and the availability of program services unless the costs of obtaining this information is reduced to near-zero. When customers put out bid requests for replacement units, they often drive the market toward the least-cost and lowest efficiency units simply by failing to consider the lifetime costs of the new units. Contractors, typically at the mercy of customer specifications, have reduced ability to educate the customer and influence the replacement decision; will bid the lowest-cost equipment to win the job. By providing consumers with the tools and information to incorporate energy efficiency and lifetime costs into their bid specifications, the Program can greatly reduce (consumer) information costs and correct the information asymmetry. Similarly, by assisting contractors and distributors in marketing premium equipment and advanced diagnostics, the program aims to provide information to consumers through multiple channels, reinforcing the message that tune-ups and premium equipment are well worth any initial investments in time, resources, or capital.

This Program specifically addresses the above mentioned market failures and the technical potential for demand reduction by focusing on incentives, outreach and education through established communication channels, removing participation barriers, and increasing the quality and reliability of claimed energy savings. These are consistent with CEC Public Interest Energy Research (PIER) research, best practices, field experience, market research, and the EE Strategic Plan.

d) Quantitative Program Targets:

Market potential for high-efficiency HVAC sales in the 2009-11 cycle will likely be constrained by economic conditions and tight credit markets that have led to leaner capital improvement budgets. The Dow-Jones Industrial Average is off of its 2007 high by roughly 40% and it would be reasonable to assume that non-essential high-ticket investments in the San Diego commercial building systems sector would be off by a comparable proportion. That would possibly reduce anticipated HVAC sales in the coming cycle to roughly about 60% of sales in the previous cycle. However, given the statewide efforts (through AB32, the Air Resources Board, the CEC and California Public Utility Commission (CPUC)) to promote broad adoption of energy efficient HVAC systems, program marketing and increased incentives, the quantitative program targets are set at 76% of the production achieved in the previous cycle (as of November 2008). All else equal, this represents a net increase in HVAC sales targets of 25% over the prior cycle. Tune-up goals are significantly lower than those achieved in the prior cycle, due to the assumption that the low-hanging fruit has already been harvested. With more than 95,000 tons of RCA services delivered and an additional 5,000 circuits tested without further corrections, it is likely that the next phase will move into more difficult-

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to-reach customers and less profitable or accessible sites. As existing preventative maintenance agreements become tapped, contractors will need to actively market the Program to generate the QM activity witnessed in 2007 and 2008. This will likely contribute to lower production numbers than in the previous cycle as seen in Table 5. Should the tune-up market remain robust, the program would ease its equipment goals to facilitate higher tune-up production.

Table 5

Premium Efficiency Cooling	Program Target by 2009	Program Target by 2010	Program Target by 2011
Equipment Installed (Tons Cooling)	2,013 tons	4,900 tons	4,900 tons
Tune-ups Performed (Tons RCA)	9,000 tons	14,400 tons	14,478 tons
Contractor Participation (number of contractors performing RCA on ten or more sites)	Six of the top twenty commercial contractors fully engaged	Eight of the top twenty commercial contractors fully engaged	Ten of the top twenty commercial contractors fully engaged

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

Customer incentives and service vouchers will be used to pull the market toward more efficient consumer choices when considering the repair or replace decision, and when choosing or scheduling maintenance services. These services are aligned with the HVAC component of the “Big Bold Energy Efficiency Strategies” (CPUC D.07-10-032 and D.07-12-051), where “Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California’s climate [Section I, p. 6 California Long Term Energy Efficiency Strategic Plan, Sept 2008].”

As identified in the Long Term Energy Efficiency Strategic Plan, “Quality HVAC installation and maintenance (QI/QM) is currently the exception, not the norm [Section 6, p. 61].” To catalyze rapid and broad adoption of Quality Installation and Maintenance (QI/QM) practices, the Premium Efficiency Cooling Program offers technician training and customer/contractor incentives to (a) increase the availability of these services throughout the service territory and (b) stimulate consumer demand. By subsidizing initial quality maintenance services, the Program hopes to assist contractors in adopting these services as part of their preventative maintenance contracts over the long term, and drive market forces such that consumers recognize the value of QI/QM and are willing to adopt and pay for these services even without ratepayer subsidies in future years. Program education and marketing strategies, including a web presence and vertical marketing through market segment networks will assist in spreading the word that QI/QM increases comfort, air quality, and energy and operating cost savings.

The Program design offers flexibility in training requirements and Verification Service Provider choices in order to allow alignment with a statewide certification program

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should the state adopt HVAC industry accreditation standards in the course of the 2009-11 program cycle.

Additionally, technologies such as ductless mini-split systems and high efficiency evaporative coolers are incorporated into the Program to support integrated whole-building efficiency, downsizing and right-sizing of existing HVAC systems, and the green building initiative.

This Program supports the EE Strategic Plan in the following manner:

- Targets non-residential customers and thus supports meeting the commercial sector goals (3. Commercial Sector, Strategy 3)
- Specifically addresses HVAC and thus promotes quality installation and maintenance (6. HVAC, Strategies 1 & 2)
- Will actively promote Company financing programs to ethnic small businesses. (2. Residential Sector, Low Income, Strategy 2.2)
- Will actively promote Company financing programs and partner with non-Investor Owned Utility (IOU) financing programs as these are developed (3. Commercial Sector, Implementation Strategy 2-6)
- Coordination through Company financing programs to push for comprehensive Demand-Side Management (DSM) retrofits. (3. Commercial Sector, Strategy 3)
- Specifically addresses HVAC (6. Heating, Ventilation and Air Conditioning, Strategy 2)

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:

- i. Emerging Technologies Program

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A key component of the Long Term Energy Efficiency Strategic Plan (2008) is the advancement of technologies, standards and building practices to deliver Zero Net Energy Homes by 2020. The immediate near-term goal (2009-11) is that 50% of new homes exceed 2005 Title 24 standards by 35% and 10% exceed these standards by 55%. HVAC contractor engagement is an essential bridge between new technology development and deployment. As innovative financing opportunities become available, and new energy efficiency and renewable technologies enter the market, participating HVAC contractors will be positioned to guide their customers in selecting appropriate technologies and financing instruments for their projects.

ii. Codes and Standards Program

With the adoption of statewide green building standards in July 2008, California's Building Standards Commission has set a voluntary benchmark for green buildings, effective in 2009. These standards are expected to become mandatory by 2012. In the interim, this Program provides contractors with valuable training and field assessment of their skills in quality maintenance and quality installation of HVAC equipment.

iii. WE&T efforts

Although workforce education and training efforts broadly encompass many private and public institutions of higher learning, the Premium Efficiency Cooling Program meets a specific need in workforce education and training by offering HVAC technicians affordable, easily accessible advanced training on Quality Maintenance and advanced diagnostics, and support in promoting premium efficiency HVAC equipment. Of the many near-term (2009-11) goals for energy efficiency education and training, this Program serves to expand training curricula and training and professional career development in building construction, services and energy efficiency technical fields (Action 1-2, p. 78 Long Term EE Strategic Plan).

iv. Program-Specific Marketing and Outreach efforts

Program-specific marketing and outreach efforts are budgeted at \$236,312.00. To achieve market penetration objectives and overcome the barriers to program participation while preserving program cost-effectiveness, five essential networks will be tapped for program promotion and information provision. These networks include:

- Upstream distribution channels (manufacturers and suppliers);
- Midstream market actors (contractors, trade groups and trade professionals);
- Market-specific networks such as the San Diego Hotel-Motel Association, BOMA, and local grocer, retail, and fast-food associations;
- High-visibility partnerships with ENERGY STAR and ACCA; and
- Utility resources and relationships through close coordination with Company Account Executives, Energy Auditors, On-Bill Financing and Customer Service personnel.

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Vertical marketing will be targeted toward high-occupancy, high-yield industries such as the lodging industry, retail, restaurants, biotech and data facilities, grocery, casinos, residential care facilities, and offices. Direct sales calls and marketing materials will be tailored to these market segments to boost participation among small and medium commercial customers with the highest potential energy savings. Rebates will be provided to the customer, or their designee, and program tips, tools and voucher applications will be on the program website.

Specific marketing materials and outreach strategies include:

- The program website, with links from Company's website and Flex Your Power™, will broadly inform the market and attract participation;
- The Program will leverage the extensive efforts of contractors, Energy Service Companies (ESCOs) and Company Account Executives and commercial programs to promote program awareness and generate leads;
- Participation in Company training events, annual Energy Showcase, and workshops or conferences aimed at the target market sector will raise program visibility;
- The three-year Program will enable marketing and outreach to large end users at the earliest decision-making stages of major equipment or facility modifications;
- Personal marketing will be used as cost effective to identify and address customer-and industry-specific barriers and customer issues;
- Case studies will be developed and disseminated case studies to highlight key technologies and segment applications. These will be available to customers and contractors alike through the program website; and
- On-going training of account managers and other marketing staff will be aimed at ensuring consistent and current program communications.

v. Non-energy activities of program

Non-energy activities of the program include training and integration aspects that do not specifically contribute to resource acquisition. While the primary focus of the Program is immediate energy savings and demand reduction, the long-term emphasis is to contribute toward the Long Term Energy Efficiency Strategic Plan by transforming the HVAC markets to stimulate sales of above-code equipment, retire inefficient equipment, and catalyze demand for Quality Installation and Maintenance Services, while providing the trade with training and equipment to provide these services. This transformation is not expected to be complete at the end of 2011, but significant movement toward contractor education and participation should ensue over the coming three years.

Non-energy activities also include mandatory inspections on 100% of the equipment installations as an opportunity to verify that the equipment meets program eligibility criteria and to promote related programs (lighting, appliances or other third-party or IOU programs) as a means to add comprehensiveness to

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service delivery. (Since the Premium Efficiency Cooling Program will not claim additional energy savings for referring customers to appropriate programs or coordinating customer involvement in Company financing opportunities for non-HVAC measures, this must be considered a non-energy activity.) Providing additional consumer information on other programs or energy-saving tips on the program website, incorporating links to the ARB's Cool California carbon calculator, and other links and information are also non-energy activities. Other non-energy activities include alignment with other programs or entities (such as applying for an Energy Star partnership); communicating program updates to market actors who do not directly participate in installing HVAC equipment or claiming incentives; and creating and distributing self-audit checklists or recommendation pages to program participants. No specific budget has been set for these activities and they are included in direct implementation costs.

vi. Non-IOU programs

Although no direct coordination activities will be involved, the Premium Efficiency Cooling Program is in step with the Global Warming Solutions Act of 2006 (AB 32) greenhouse gas emission reduction objectives. By focusing on existing buildings, the Program is well integrated with the general objectives of the CEC, CPUC, and ARB with respect to 2020 greenhouse gas emission goals. The Premium Efficiency Cooling Program addresses energy efficiency measures that will assist in meeting the 2020 Goal established by AB 32, and the 2050 Goal established by the governor's Executive Order to meet the 450 part per million (ppm) concentration target. These aggressive goals require businesses and homes to eventually move to Zero Net Energy – a goal that begins with efficiency improvements and right-sized cooling and heating systems. Martha Krebs, of the Public Interest Energy Research Program (PIER) notes that California's Zero Net Energy Business (ZNEB) goal is "technically feasible, although incremental costs will be substantial" [Energy Delivery and Use and Greenhouse Gas Reduction in Communities: Technology and Systems Challenges, presentation, CEC October 28, 2008]. The efficiencies associated with retiring and replacing energy-intensive DX systems and training technicians to optimize charge, airflow and economizer settings during regular service calls are a first step toward ZNEB goals.

The ARB Draft Scoping Plan identifies that the potential from Buildings is second only to the Transportation sector, and represents 23% of 2004 GHG emissions (114 MMTCO₂E), (California Air Resources Board, 2004 GHG Emission Inventory). [California's Research Program to Address Greenhouse Gas Emissions, presentation, October 28, 2008, Emerging Technologies Summit 2008]. The Program will assist in achieving these goals through improved commercial HVAC efficiency. Because "existing buildings account for the majority of the potential for GHG reductions [ARB Draft Scoping Plan Appendices]" energy efficiency programs such as the Premium Efficiency Cooling Program are a key element of reaching the 2020 goal.

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vii. CEC work on PIER

Program goals, including the focus on improving the energy efficiency of existing buildings and mechanical systems, are aligned with CEC and PIER findings.

In the April 2005 CEC report (CEC-400-2005-011-D-AP) “Technical Assistance in Determining Options for Energy Efficiency in Existing Buildings,” cooling system tune-ups account for potential demand reduction of 186 MW and energy savings of 308 GWh/yr. This represents 5.1% of the technical potential for demand reduction in existing buildings and 2.1% of potential energy savings. The Premium Efficiency Cooling Program will tap into these potential savings by offering contractor incentives/customer vouchers for free or reduced-fee cooling system tune-ups.

In “Design Guide: Big Savings on Small HVAC Systems” the PIER Buildings Program estimates that HVAC systems for small commercial buildings are “notorious for a host of problems requiring 25 to 35 percent more energy than is necessary to heat, cool, and ventilate California buildings” (Technical Brief CEC-500-2005-046-FS 021705). While this particular PIER sponsored research focuses on design elements such as right-sizing and an integrated design approach, it also calls for improving the efficiency of existing commercial buildings by encouraging businesses to adopt CEE Tier 2 (premium efficiency) HVAC units, and by addressing problems associated with malfunctioning or improperly set economizers, and improper charge and airflow issues. By providing HVAC contractors with training and incentives for optimizing airflow, charge and repairing or properly setting economizers, the Premium Efficiency Cooling Program addresses core problems common to many existing small commercial buildings. By encouraging the early retirement of existing units and installation of higher efficiency DX units, the Program can potentially foster higher adoption levels of above-code equipment.

As noted in the CEC study referenced earlier, DX air conditioning replacements account for an additional 246 MW potential demand reduction, or 6.7% of the commercial building efficiency technical potential (Working Draft, A-11). Energy savings from AC replacements are estimated at 445 GWh/yr or 3% of the technical potential.

viii. CEC work on codes and standards

CEC work on codes and standards underpins much of the content in new building technologies, energy efficiency building codes and green building standards. Again, the Program does not specifically budget coordination with ongoing CEC work into the delivery of training materials, but as new codes and standards are implemented, the Premium Efficiency Cooling Program will adapt its incentive and eligibility requirements to promote increasingly efficient equipment over the course of the program.

ix. Non-utility market initiatives

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Many industries and market actors are adopting practices conducive to becoming green corporate citizens, reducing greenhouse gas emissions, or investing in energy efficiency. However, many of these actors do not understand Energy Efficiency Rating (EER) or Seasonal Energy Efficiency Rating (SEER) and how the extra investment in a higher efficiency AC unit can contribute to their overall goals of going green. The Premium Efficiency Cooling Program targets specific market sectors such as hoteliers or restaurants or offices to directly market program incentives to these customers and provide them with tools and guidance in selecting high-efficiency HVAC equipment. Examples of non-utility market initiatives where opportunities exist for joint marketing and outreach include various Green Lodging Programs, the Green Hotel Association, the Green Restaurant Association, and various green traveler resources.

c. Best Practices:

The program design incorporates many of the best practice elements from the National Energy Efficiency Program Best Practices Study. Specific items include:

Program Theory and Design

- Anticipation of market challenges built into program design
- Program integrates statewide policy objectives into program design
- Program plan and program theory have been tested over the past two years and have been adjusted based on new challenges and quality assurance feedback.

Project Management

- Clear lines of responsibility and communication are set forth in the program participation agreement (contractors and/or customers), and the Verification Service Provider contracts.
- Field staff and efficiency service providers will be trained in program procedures and technical requirements.
- Consistent, experienced personnel from the 2006-08 programs will contribute to the effectiveness and management quality of the 2009-11 program.

Reporting and Tracking

- All Program data, including measure-level data, will be integrated into a single database using Company's SMART system.
- The SMART system is linked to Company's customer relationship management (CRM) systems.
- The Program utilizes electronic workflow management and web-based communications including the program website, e-forms and submittal processes, and electronic upload of data to the SMART system.
- Program prospects will be contacted and tracked early to drive program intervention in the pre-season and off-season months, via communications from

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program sales representatives, mailers, and program partners (including Account Executives, distributors, and/or contractors).

- The level of tracking will be balanced against resource availability.
- Post-inspections are required for 100% of the equipment installation sites.
- Independent Measurement & Verification (M&V) contractors conduct M&V
- Contractor performance is tied to independently verified results using Verification Service Providers and/or program validity models to identify and remedy potential performance issues.

Participation Process

- The application process and forms are designed for user-friendly navigation and ease of use, including electronic or telephone submittal options, telephone support and on-site assistance for larger projects.
- Program rules and requirements are tailored to the market segments addressed, taking into consideration business practices and capabilities unique to each customer or customer segment.
- Technical assistance is provided to contractors through Verification Service Providers and program representatives, who help applicants through the process
- The Program works with key stakeholders, including industry associations, to maximize reach and acceptance.
- Trade allies (primarily contractors and distributors) will be trained in program policies and procedures so they may then assist customers through the process.
- Program funds are slated to cover program operations for the duration of the three-year cycle, throughout each year.

Incentive Approaches

- Incremental costs were used to benchmark and limit payments
- Incentive strategy is designed to maximize net program impacts
- Various financial incentive methods are used to maximize acceptance in each circumstance.
- Incentive levels will be periodically reviewed and adjusted based on market demand.
- Leverage of Company's On-Bill Financing program.
- Voucher program limits program payments to free riders.

d. Innovation:

Targeted market penetration levels will be achieved through a combination of effective marketing combined with a program that creates a financial benefit to the customer. In responding to the new challenges for the 2009-11 program cycle, the Program will offer comprehensive and innovative delivery of services and the minimization of lost opportunities:

- *Vouchers for program services:* vouchers offer protection against double-dipping and customer/contractor misunderstandings, while providing direct customer

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rebates for participating in efficiency tune-ups. Commercial customers who participate in the Program through equipment replacement will be offered vouchers for tune-ups on units not replaced or other sites in their portfolio. Similarly, during the course of performing tune-ups, contractors will make recommendations for replacements and/or repairs, and offer to reserve funds for potential replacements. These will move customers toward more comprehensive services and reduce lost opportunities.

- *Promotional program equipment pricing coupled with rebates and financing instruments:* this delivery strategy is particularly effective in the hotel industry and for small businesses, providing innovative channels for customers to overcome the initial cost barriers of early retirement.
- *Promotional program pricing and coordinated upstream/midstream marketing:* working directly with upstream actors on joint marketing and promotion offers greater program visibility, message reinforcement, and consumer awareness.
- *Coordination with multiple entities (trade associations, utility representatives, other third-party, municipality or special district programs) to market the program through vertical distribution channels:* cross-program and inter-agency marketing will minimize lost opportunities; trade association delivery channels take advantage of industry-specific initiatives toward greener building practices and operations.
- *Partnerships and/or training requirements that move contractors toward improved quality and market transformation while reducing barriers to program participation.*
- *Partnership with ENERGY STAR and promotion of ENERGY STAR recommendations and standards may offer spillover effects on future purchase decisions.*
- *Web site:* extensive consumer information and links on the Program website direct customers toward energy efficiency improvements outside the Program's core features. Customers may contact the Program for additional information or for referrals to the appropriate program or entity.
- *Energy savings calculators:* designed for the 2006-08 Program, these calculators have been adopted by contractors for up selling premium equipment and providing consumers with a quick snapshot of their potential annual savings for retiring inefficient equipment. By providing upstream and midstream actors with simple tools for selling equipment and services, the Program harnesses the power of hundreds of market actors with established customer relationships.

e. Integrated/coordinated Demand Side Management:

Although this is a limited subset of all DSM measures, it is appropriate to the primary delivery mechanism for this Program: HVAC Contractors and Distributors. These trade partners offer access to HVAC customers and units, and generate leads for premium-efficiency equipment replacement opportunities. However, HVAC contractors are not

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the best emissaries of information regarding technologies and DSM opportunities outside their area of expertise. While some HVAC firms offer full-service energy efficiency contracting, this appears to be the exception rather than the rule. Most HVAC contractors do not bid on lighting projects or provide customers with assistance in replacing food service equipment, identifying and reducing plug loads, or selecting higher efficiency office equipment.

To achieve integration of all DSM measures (including non-HVAC energy efficiency measures, on-site generation and demand-response), the Program would require many additional measures and a much larger budget. Although the Program is open to discussing how non-HVAC measures can be integrated into a program driven primarily by HVAC contractors, distributors and manufacturers, the next-best alternative is to coordinate cross-program marketing through Company Account Executives and personnel. Inspections at all commercial facilities where new equipment is installed will afford the Program an additional opportunity to leave cross-program information behind, including a self-audit checklist or a checklist of recommendations that may apply to the building type or market segment. Cross-program information (as provided by Company) can include information on commercial lighting or controls programs, demand-response programs, onsite generation, utility financing programs, and information on other statewide programs such as the Standard Performance Contract or Express Efficiency.

In addition to utility-provided informational handouts and self-audit checklists or recommendation sheets, customers will be made aware of Company's On Bill Financing (OBF) Program through various program outreach mechanisms including (a) HVAC contractors whose specialty includes lighting and energy-efficiency improvements, (b) program sales representatives, especially those representatives working with the lodging industry, (c) contact information for OBF posted on the program website, and (d) customer calls and referrals (as appropriate or when asked).

Demand response and onsite generation potential can be addressed through referral forms or by offering to pass the customer's information onto Company for follow up. A cost-effective way to integrate utility follow-up from HVAC service visits or equipment replacement would be to collect data at the time of inspection or in customer service surveys on whether the customer would like additional information on demand response programs, onsite generation or energy efficiency programs. This information could then be uploaded to Company as part of the SMART measure file for appropriate follow-up. Because integration will likely be handled by the utility, the Program budget does not include any shared or leveraged budget categories or amounts.

f. Integration across resource types (energy, water, air quality, etc):

The Premium Efficiency Cooling Program does not specifically aim to integrate across resource types (energy, water, or air quality). However, to the extent that Quality Maintenance and the replacement of inefficient HVAC units affect GHG emissions, program participation affects broader air quality goals. To emphasize the inter-relations between greenhouse gasses and air conditioning efficiency, the Program plans to incorporate resources and/or links from the California Air Resources Board and other

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public agencies that address Zero Net Energy Homes, and GHG emission reductions associated with air conditioning and heating loads. In order to enhance integration across resource types, website links to resources for green building practices may include information on building-related water and air resource programs and practices such as standards for meeting water-conservation building ordinances, native and low-water use landscaping practices and new construction standards consistent with meeting the California Building Standards Commission benchmark for green buildings.

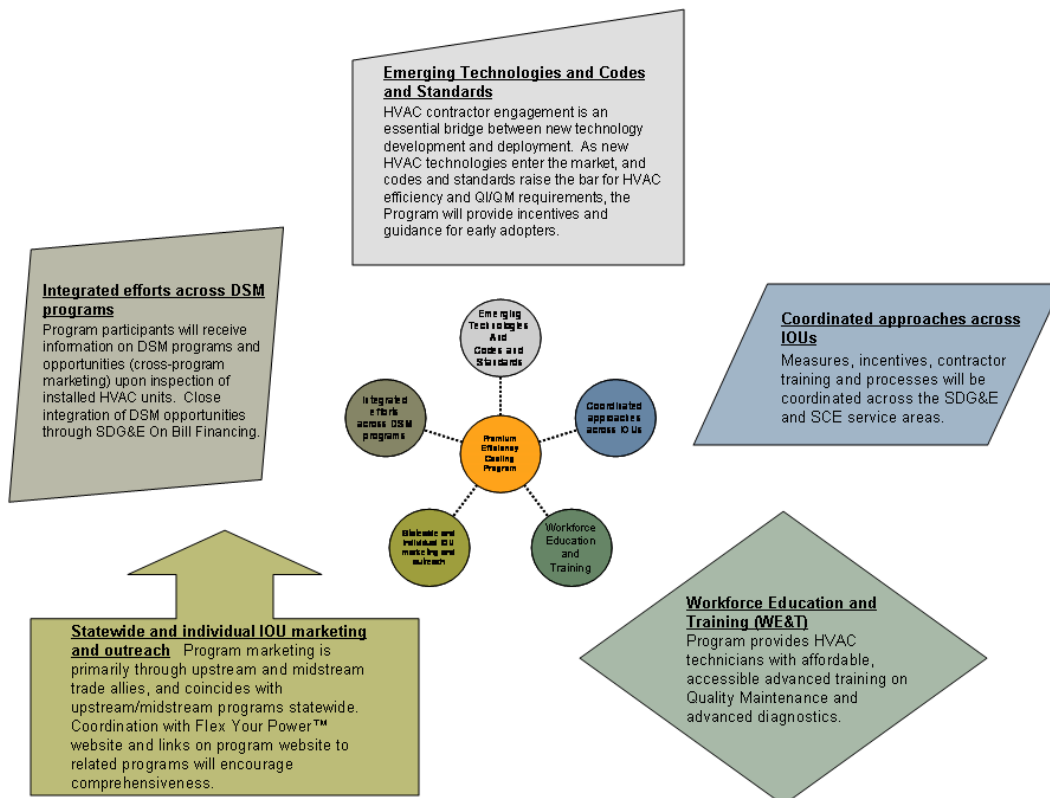
g. Pilots:

Not applicable to this program.

h. EM&V:

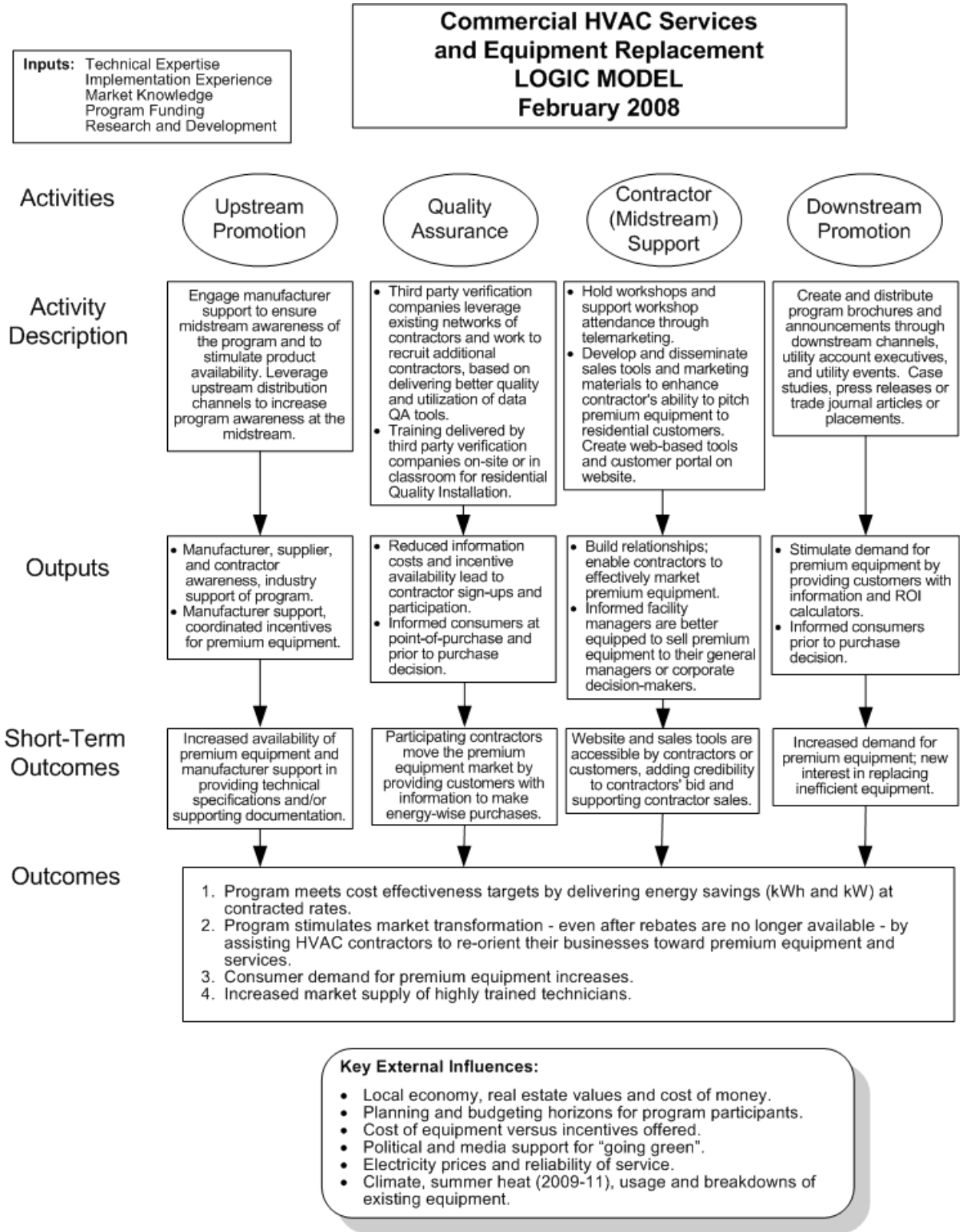
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program:



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8) Program Logic Model:



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The logic model for the Commercial HVAC sector begins with promotional activities through upstream distribution channels (manufacturers and suppliers), contractor recruiting activities (midstream), and targeted downstream marketing activities. By launching the Program through multiple streams and venues, the Program will gain momentum by enlisting the support of crucial market actors, building downstream customer awareness, and providing customers and contractors with reduced information costs. These activities are expected to eventually affect customer decisions at the point of purchase and in the pre-planning and bid-seeking stages of their investment decision. Although not identified explicitly in the program logic model, commercial equipment and services go hand in glove. Activities intended to promote premium-efficiency equipment awareness include commercial equipment tune-ups and advanced diagnostics, delivered through participating contractors. Taken together, tune-up services and above-code HVAC unit sales should produce cost-effective energy savings, stimulate market transformation over the long term consistent with the Long Term Energy Efficiency Strategic Plan, and increase consumer demand for premium equipment and Quality Installation and Maintenance services while increasing the supply of highly trained HVAC technicians.

**2009-2011 Energy Efficiency Programs
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- 1) Program Name: Portfolio of the Future
 Program ID: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes11 - Portfolio of the Future (PoF)	41,379	303,607	325,000	0	669,986
	TOTAL:	\$ 41,379	\$ 303,607	\$ 325,000	\$ -	\$ 669,986

Final third party program budgets are subject to change based on Commission approval and final negotiations

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub-Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes11 - Portfolio of the Future (PoF)			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for Energy Programs has specific estimated savings and demand impacts.

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a) Describe program

The Portfolio of the Future (PoF) work effort is designed to leverage and enhance San Diego Gas and Electric's (SDG&E) Emerging Technology (ET) efforts by identifying and accelerating the market adoption of emerging technologies that can significantly improve end-use electricity efficiency in Company's service territory. The PoF work will accomplish this by:

- Helping to validate emerging technologies, demonstrate the benefits, build the necessary market infrastructure, and promote and encourage early adoption by concurrently providing assistance, defining the value proposition, and addressing market barriers.
- Building awareness regarding the benefits from the emerging technologies and setting the stage for including some of the emerging technologies in the next cycle (2012 – 2014) of energy efficiency programs.
- Proactively identifying promising opportunities that can reduce reliance on volatile energy supplies.
- Leveraging the joint resources and assets of Company; other utilities, including Southern California Edison and Pacific Gas and Electric; Navigant Consulting, Inc. (NCI); potential Research and Development (R&D) partners, including the Department of Energy, California Energy Commission's (CEC) Public Interest Energy Research Program (PIER), New York State Energy Research and Development Authority (NYSERDA), private equity, and venture capital funds; the utilities' customers; other state and Federal agencies; and, local governments.

b) Measures to be provided

Not applicable, this is a non-resource program.

c) List non-incentive customer services

Not applicable

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			

**2009-2011 Energy Efficiency Programs
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Sub Program #3		
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Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

c) Program Design to Overcome Barriers:

Emerging technologies face a long path to gaining market acceptance. The energy services market is fragmented and depends upon multiple actors to develop and sustain a viable market. California's aggressive energy efficiency and Greenhouse Gas (GHG)

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goals necessitate shortening the commercialization cycle. As identified in the California Energy Efficiency Strategic Plan (CEESP), emerging technologies are of critical importance. If emerging technologies are to make a difference in achieving energy efficiency and GHG goals over the next decade, then significant additional resources must be focused upon:

- Identifying and promoting the most significant opportunities, including supporting a portfolio with a balance of near-, short-, mid- and long-term opportunities;
- Providing local demonstrations to document and establish the credibility of the energy savings and environmental benefits of the technology;
- Fostering development of the capability for local delivery and support (including sales, installation, and maintenance infrastructure), and
- Implementing programs to foster the deployment of the cost-effective and reliable energy savings technologies.

During the 2006-2008 program cycle the PoF Program identified and conducted initial activities relating to 44 emerging technologies with various savings potential. Approximately five of these technologies can be rolled into near-term programs. Additional work will be required to help confirm a realistic market potential for each.

The Portfolio of the Future (PoF) Program identifies and evaluates promising technologies. For the selected technologies, the PoF sponsors pilot tests to provide credible benefits specifiers; develops market data to facilitate investment and market entry; works with firms to establish a California market presence; facilitates partnerships (e.g. other utilities, other government agencies, distributors, etc.); assists utility programs managers to incorporate these technologies into their programs; and assists in building market awareness.

d) Quantitative Program Targets:

The Program has a set of targets related to identifying and accelerating the market adoption of emerging technologies that can significantly improve end-use electricity efficiency in Company's service territory.

Table 5

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
Update of Electricity Efficiency Emerging Technology Inventory	250 technologies	N/A	N/A
Assessment of High Potential Technologies	40 technologies	N/A	N/A
Development of High Priority Technologies (Fast Track, Pilot Projects, Venturing Assistance, Market Assessment)	3 – 4 technologies	N/A	N/A

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Creation of Program Ready Packages	3 - 4 technologies	N/A	N/A
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Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

In October 2007, the California Public Utility Commission (CPUC) recognized that California’s very ambitious efficiency and greenhouse gas reduction goals require long-term strategic planning to eliminate persistent market barriers and effect lasting transformation in the market for energy efficiency across the economy. Accordingly, the Commission developed the Long Term Energy Efficiency Strategic Plan (Strategic Plan) to guide California’s energy efficiency efforts through 2020 and beyond.

The Strategic Plan lists emerging technologies as one of the five policy tools employed to “push” or “pull” more efficient products or practices to the market. The market transformation strategies covered in the plan are built around these five policy tools. Moreover, the Strategic Plan was structured around four vertical market sectors and seven cross-cutting areas. Research and technology is one of the seven cross-cutting areas.

The PoF Program is designed specifically to support the Strategic Plan by supporting the development, demonstration, and deployment of emerging technologies that will support the “big bold” energy efficiency strategies and bring more efficient products and practices to the market. More specifically, the PoF Program will support the following strategies in the Research and Technology cross-cutting area of the Strategic Plan:

1. Engage the full-range of participants. In order to select, develop, and enhance emerging technologies, the PoF Program will collaborate with California Investor-Owned Utilities (IOUs), the U.S. Department of Energy (DOE), New York State Energy Research & Development Authority (NYSERDA), California Energy Commission (CEC) Public Interest Energy Research (PIER), Electric Power Research Institute (EPRI), European and Asian entities, Company customers, U.S. and non-U.S. manufacturers, national laboratories, and energy efficiency advocacy groups such as the American Council for an Energy Efficient Economy (ACEEE) and the Consortium for Energy Efficiency (CEE).

2. Identify new technologies and enhance existing technologies. The PoF Program will perform a broad scan and assessment of relevant emerging technologies. It will develop an updated list of relevant emerging technologies by scanning published documents such as research reports, technical journals and the trade press, as well as engaging in direct discussions with researchers and companies. The PoF Program will also build upon any previous scans that Company or any other stakeholder organization has completed.

3. Employ a systems approach to establishing research priorities. The PoF Program will conduct an initial emerging technology screening to ensure that the selected emerging technologies support and build on existing activities across a variety of stakeholders. The criteria will help address the following systemic issues: Inappropriate for Energy Efficiency (EE) program? Still in R&D stage? Commercialized technology? Low savings potential? Limited market application? Low baseline consumption in Company’s service

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territory? Low efficiency improvement in Company's service territory? Not cost effective in Company's service territory? Existing Company or an existing activity by Emerging Technology Coordinating Council (ETCC)? High industry sophistication? Generation Technology? Covered in Southern California Gas (SCG) PoF?

4. Facilitate path to market for technologies and enabling/supporting practices. The PoF Program will assess the program readiness of each selected emerging technology, develop a work plan to complete the program readiness, and create a program ready package that will serve as the basis for the optimal long term utility plan to lead to the broad market adoption of the technology.

5. Apply social and behavioral science theory. As part of the program ready package for the selected emerging technologies, the PoF Program will develop a market assessment that identifies consumer needs, behavioral drivers, and decision processes, and a marketing plan that addresses these issues.

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

The PoF Program will be performed in conjunction with SCE, PG&E and the ETCC to assure success in recruiting targeted participants; that PoF Program's activities are coordinated and complementary to those of the IOUs, the ETCC and other key energy research stakeholders; and that information about high potential technologies being advanced through PoF Program is widely disseminated to targeted adopters throughout California.

b) Program Delivery and Coordination

i. Emerging Technologies program

PoF is designed specifically to complement California's existing emerging technologies programs and activities.

ii. Codes and Standards

The Program's scope includes identifying key barriers to adoption of new technologies. During the process of conducting pilot projects and market assessments, PoF Program will identify any potential conflicts with codes and standards, and will document the potential benefits of new technologies affected so that the appropriate regulatory bodies can review the codes and standards and determine whether changes should be made.

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iii. WE&T (Workforce Education & Training)

Similarly, lack of a trained workforce to perform installations, operations and repair services can be a significant barrier to technology adoption. PoF considers and will document these types of barriers in its technology assessments, and suggest potential remedies.

iv. Program Specific Marketing & Outreach

As a research program, there are no predefined marketing & outreach activities or budget.

v. Non-Energy Activities of Program

PoF's primary focus is on identifying and facilitating adoption of new electricity efficiency technologies. However, some technologies also achieve ancillary benefits. For example, technologies that reduce electricity consumption for water heating by reusing hot water have an additional benefit of saving water. In addition, many technologies can also reduce air emissions. Those that reduce potable water consumption reduce embedded energy that was used to produce and deliver that potable water, and also reduce the amount of energy needed to treat wastewater. Other technologies directed at improving electricity efficiency may have the added benefit of reducing associated emissions. All such ancillary benefit streams are documented under the Program in the cost-benefit analysis of each technology being evaluated.

vi. Non-IOU Programs

As noted previously, one of PoF's primary strategies is to identify and leverage complementary resources, assets and activities being conducted by others through proactive partnering. During the 2006-2008 program cycle, PoF partnered with various technology developers, manufacturers and distributors; energy and water utilities; and a wide variety of diverse stakeholders. During 2009-2011, PoF anticipates much broader partnering with other energy RD&D organizations and stakeholders, including CEC PIER and U.S. DOE; non-profit organizations such as the Public Technology Institute that brings new technologies to its members, local governments; POUs such as Riverside Public Utilities; and other energy, water and wastewater utilities.

vii. CEC work on PIER

The Company, the CEC Public Interest Energy Research division (PIER) and the other IOUs have closely related projects designed to support emerging technologies. Avoiding duplicative efforts is critical. The Contractor will monitor and coordinate its activities to ensure that resources are effectively deployed to complement and avoid duplication of efforts. Company will facilitate coordination with other IOUs through the Emerging Technology Coordinating Council (ETCC).

Contractor will meet every one or two months with Company to review the emerging technology pipelines and portfolio of projects. At these meetings, the portfolio of activities will be reviewed and adjustments to the portfolio (including

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continuation of pilots; as well as the number of and scopes of pilots, assistance, and assessments to be completed) will be approved by Company.

The PoF Program provides multiple innovative approaches to leverage the efforts of CEC PIER and the California utilities. Below is a description of the types of activities conducted by the Program:

- Coordinate with and leverage other efforts as directed by Company Emerging Technology Program staff. These will include CEC PIER and DOE's energy efficiency R&D planning efforts, private equity and original equipment manufacturers on new technology market assessments and entry and other California utilities including the water and municipal utilities in Southern California).
- Work with technology developers (including inventors, Asian and European companies, small firms, and major companies – e.g. United Technologies, Johnson controls, etc.) to develop strategies for bringing new technologies to market.
- Recruit and monitor demonstration installations.
- Foster integration into Company programs.
- Develop “spillover” from these efforts.

viii. CEC work on codes and standards

As noted under 6.b.ii. above, PoF Program will identify areas where existing codes and standards may need to be modified to support widespread deployment and accelerated adoption of high potential gas efficiency technologies. This information will be documented and provided to all key stakeholders involved in establishing various codes and standards, including but not limited to CEC's work on updating Title 24 and appliance standards.

ix. Non-utility market initiatives

The "Portfolio of the Future" initiative includes the following elements:

- Accelerate the commercialization of energy efficient technologies in support of the California Energy Efficiency Strategic Plan (CEESP) and Big/Bold Initiatives;
- Partner with a wide variety of stakeholders including other utilities, industry, EPRI, DOE, and CEC to leverage resources and maximize impact; and
- Develop a portfolio of pilot opportunities.

c) Best Practices:

Company views the Portfolio of the Future Program, which was first implemented during the 2006-2008 program cycle, as a best practice program in the emerging technology arena. The POF Program is the only one of its kind in that nation and is distinctive in that the goal of the program is to not only to identify promising technologies, but also to support utility efforts to integrate these into Company's approved Commission portfolio.

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The focus of the Program is on emerging technologies beyond the R&D stage, but needing some further research, testing, enhancements or support to be “program ready,” and thus able to be integrated into utility program offerings.

As a third-party effort for the 2006-2008 program cycle, the POF Program scanned through over 250 natural gas emerging technologies, developed categorization of these in terms of timeframes for “program readiness,” identified those most promising in the near-term, and developed “Program Readiness Packages” to support technology integration for 2009 through 2011. The work involved technology review, market feasibility assessments and pilot testing (through industry demonstrations), where relevant. The result of the POF effort was recommendation to Company that four new electricity emerging technologies be integrated into Company’s program offerings.

During the 2009-2011 program cycle, the POF Program, under the direction of the Emerging Technology group, will continue its evaluation of program/market ready gas technologies, review and update current Emerging Technology list for new technologies, and provide market assessment, demonstration, and program readiness support as needed.

Program Theory, Design, Management, Reporting, QC, and Process Design The POF Program has constantly benefited from inclusion of best practices in its design and implementations. Below is a listing of best practices recommendations from the California Best Practices database that have been integrated into the POF Program theory and design.

Program Theory

Best Practice Suggestion	POF II Best Practice Integration
Develop a sound program plan; if possible have a clearly articulated program theory	Contractor will present a clear POF program theory and design description in the PIP)
Link strategic approach to policy objectives and constraints	The POF Program is designed to help Company “fill-the-gap” needed to meet the Commission’s “stretch” energy savings goals
Build feedback loops into program design & logic	Feedback is both internal from regular meetings and briefings with Company ET staff, and external from program demonstration and other partners
Do not over-promise results	The focus of the POF effort is to scan technologies, with a goal of integrating four technologies in the 2012-2014 portfolio
Understand local market conditions	POF Program is designed to deepen Company’s understanding of the markets for applicable new technologies
Conduct sufficient market research	The program design calls for extensive market research, including pilot demonstrations, as needed
Maintain program design flexibility to respond to changes in market & other factors	Flexibility is built in to the program design as was evident during the 2006-2008 program cycle
Put process plan (including program	Each step of the POF process has been

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management) in writing	described and vetted with utility staff
Define & locate hard-to-reach customers & target programs accordingly, as appropriate	This is the overall focus of the program effort

Program Management: Project Management

Best Practice Suggestion	POF II Best Practice Integration
Clearly define program management responsibilities to avoid confusion as to roles and responsibilities	The POF Program design includes extensive and clear definition of roles and responsibilities, decision and reporting channels
Use well-qualified engineering staff (for technical programs)	The Contractor team will include well qualified staff
Delegate responsibility based on risk versus reward	Program design has decision making for key program elements remaining within Company hands, with risk and reward properly assigned.

Program Management: Reporting and Tracking

Best Practice Suggestion	POF II Best Practice Integration
Define & identify key information needed to track & report early in the program development process	The POF process is very precise, including document program criteria and scanning methodology, Measurement & Evaluation (M&V) plans for pilot demonstrations, technology marketing assessment plans and designs, and program readiness packages – including work papers, and project plans
Clearly articulate the data requirements for measuring program success	These are clearly identified in the project plans and activities
Design program tracking system to support the requirements of evaluators as well as program staff	All POF Program elements and processes are developed and ready for review as part of the program theory and design

Program Implementation: Participation Process

Best Practice Suggestion	POF II Best Practice Integration
Keep participation simple	The POF process is designed to simplify transaction between utility and emerging technology providers; and facilitates all research and collaboration between Company and the industry
Develop participation strategies that are multi-pronged & inclusive	The POF process is inclusive and thorough in its approach to emerging technology review and recommendation
Provide quick, timely feedback to (applicants) technology partners, interested industry participants and ET developers	The Program includes regular “hand-holding” of each of the players in the process as Contractor evaluates the ET for program readiness
Review & understand product availability before establishing product eligibility	This is one of the criteria and elements of ET selection as “program ready,” and includes linking with the ET provider to ensure utility service area support for the new technology

**2009-2011 Energy Efficiency Programs
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Best Practice Suggestion	POF II Best Practice Integration
Offer a single point of contact for customers	Contractor will provide this focus in facilitating the POF project as a means of simplifying program process and avoiding technology provider confusion

d) Innovation:

The POF Program is the only one of its kind in the nation and is distinctive in that the goal of the program is to not only to identify promising technologies, but also to support utility efforts to integrate these into Company’s approved Commission portfolio. The focus of the program is on emerging technologies beyond the R&D stage, but needing some further research, testing, enhancements or support to be “program ready,” and thus able to be integrated into utility program offerings.

e) Integrated/coordinated Demand Side Management:

Reducing Company’s need for additional peak capacity is a key objective for the PoF Program. As a result, capacity technical and program savings potential, measured in MWs, are two of the primary technology assessment criteria for the PoF Program.

The level and type of integration with DSM programs will depend on the nature of the various technologies being evaluated and readied for integration into Company’s portfolio. The PoF Program’s process scans for technologies in all markets and sectors. The evaluation of each technology considers how it might complement or compete with other technologies in Company’s existing portfolio for different types of customers and businesses. This understanding is used to structure the recommended programs and incentives for each technology selected by Company for its future portfolio. The manner in which these new technologies are integrated and the program(s) in which each technology will be integrated (because a single technology may have applications in more than one market or customer sector) are determined on a technology specific basis.

f) Integration across resource types (energy, water, air quality, etc):

Although the primary purpose of this program is to accelerate the adoption of high potential electricity efficiency technologies, there are many ancillary resource benefits. For example, for homes without natural gas service, one of the primary end uses of electricity is to heat water. Many new efficiency technologies identified during the 2006-2008 energy efficiency program cycle such as drain water heat recovery and laundry water recycling, involve reusing heated water which results in savings of water as well as of electricity. To the extent that potable water is used for such processes, the electricity embedded in that reduced water consumption is also avoided, resulting in additional electricity reductions and greenhouse gas emissions.

g) Pilots:

Pilot projects will be conducted subject to Company approval. Examples of potential pilot projects in 2009 include:

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- Pilot demonstration with commercial customers of the energy savings and technical barriers for voltage regulation products
- Pilot demonstration with residential customers of the energy savings and market barriers of smart strips
- Pilot demonstration with commercial refrigeration customers for the energy savings and technical barriers for SmartCool technology

In addition, new pilots will be conducted for additional high potential technology opportunities identified during the 2009 market scan. Following is a description of the pilot project process.

1. For each pilot project, a pilot project plan will be developed that includes an executed agreement and participation terms for each pilot participant. The agreement will cover the following terms and conditions:

- Identification of participants in the pilot
- Definition of roles and responsibilities of the parties
- Documentation of resources and assets contributed by each party
- Needs/ownership and interests/benefits (if any) that accrue to each party
- Amount of Company incentives available/requested
- Terms for payment of incentives (e.g., direct subsidy vs. performance based)
- Ownership of data and pilot results
- Contractor and Company access to facilities and data
- Rights (if any) to technology or products developed through the pilot(s)
- Terms and conditions for termination of pilot(s)
- Basis for determining pilot(s)' "success"
- Commercialization plan, market forecast, and future opportunities
- Pilot organizational structure (designation of technical team assigned to manage each project and assigned roles and responsibilities)
- Schedules and milestones
- Technical plans that specify the type(s), level(s) and frequency(s) of testing, data capture, monitoring, measurement and reporting
- Defined reporting types, forms, intervals, protocols (including case studies and detailed technical reports reporting results and lessons learned, and conditions needed for successful implementation)

2. The pilot will then be conducted in accordance with the plan.

3. Data analyses will be conducted to determine and document expected energy savings.

4. Upon completion of pilots, debriefings will be conducted with pilot participants, capturing lessons learned and key factors required for success in future applications.

5. A pilot summary report will be prepared that includes a description of the pilot, the pilot results and learning, and recommended next steps. Technical specifications, documentation of the data analyses and other pertinent data will be documented in the

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report appendices. The pilot summary report will include: a description of the pilot; the pilot objectives; pilot design; data collected; data analytical approach; data analysis results; energy savings/production; cost-effectiveness calculations; risks and uncertainties; lessons learned; applicable market(s); and recommendations.

6. If appropriate, a publicity packet may be prepared that includes a press release, a web story with links to additional information, technology guidelines, and customer testimonials.

7. Finally, an application brief will be prepared, if appropriate, that describes the technology, its applicability, benefits, and sources for more information and assistance.

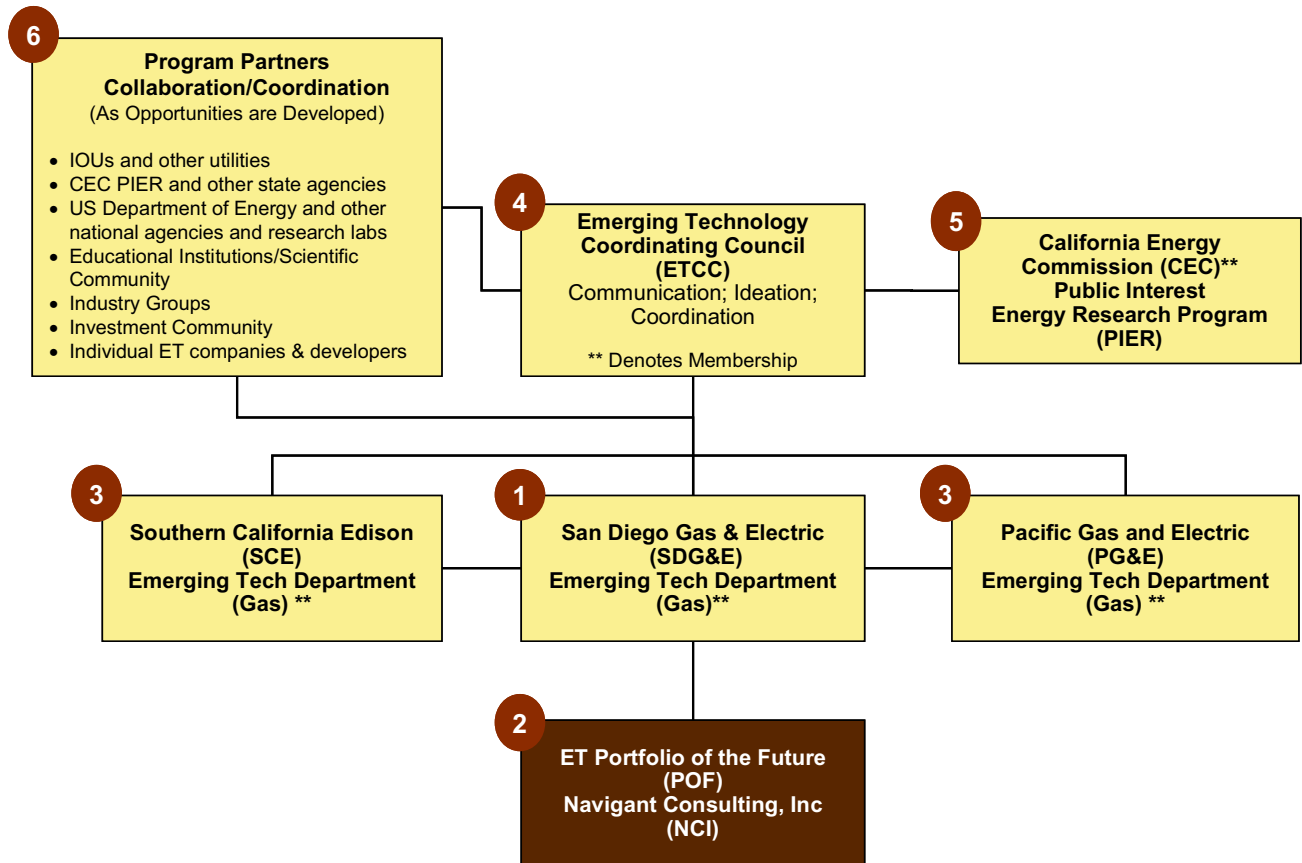
h) EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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7) Diagram of Program:

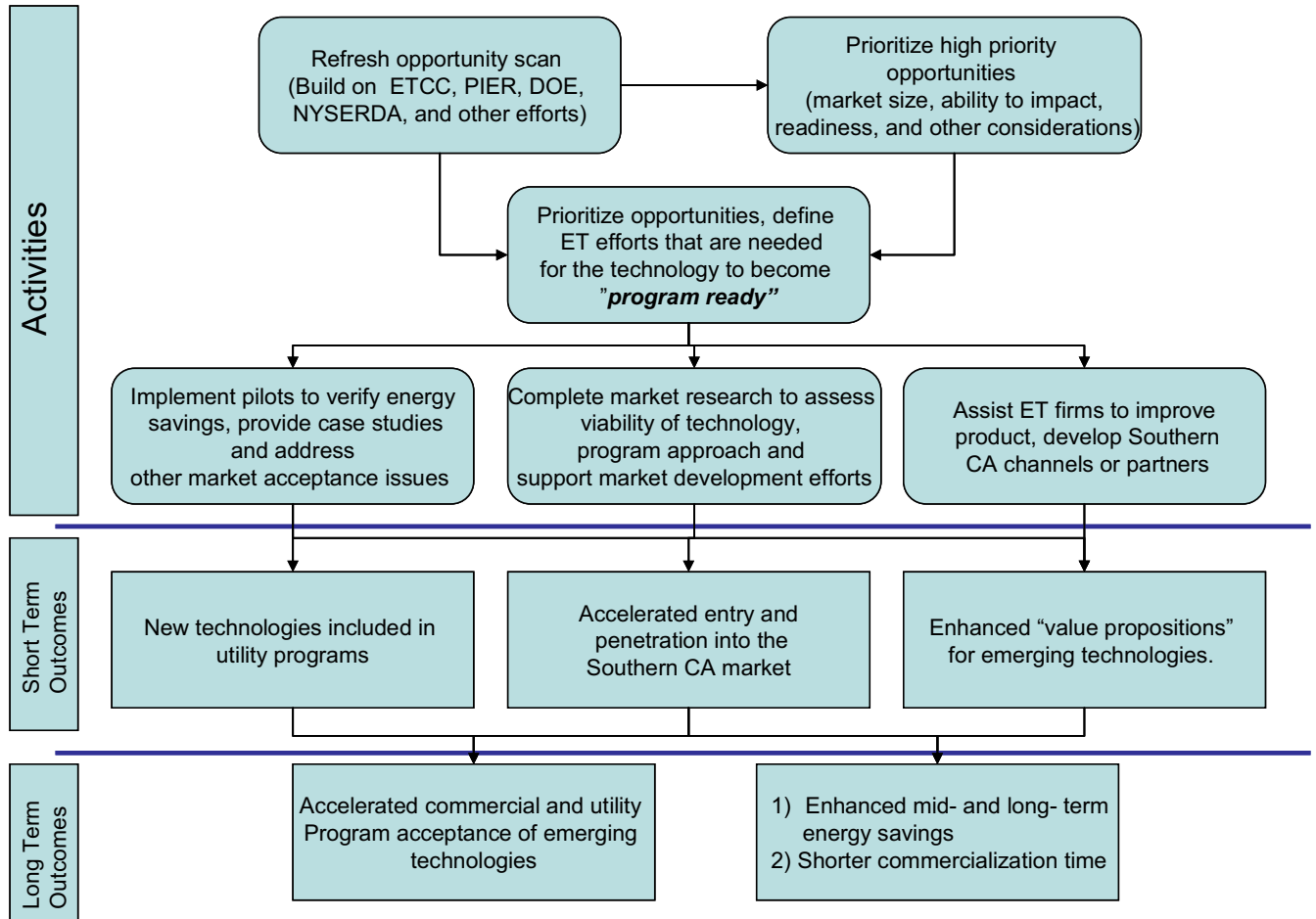
SDG&E PoF Diagram - Coordination and Collaboration



1. Company is responsible for overall management of the PoF Program. The Program is a continuation of a successful third-party program effort during the 2006-08 cycle.
2. Navigant Consulting, Inc (NCI) is the third-party operator of the PoF Program and reports directly to Company.
3. The PoF Program coordinates its efforts as appropriate with the electricity energy efficiency savings program of both SCE and PG&E.
4. Company shares POF research findings with the Emerging Technology Coordinating Council, of which it and the other IOUs are members.
5. Likewise, Company and its Contractor coordinates its research efforts with the CEC PIER program. The PIER program has a major focus on research and development of newly emerging technologies. The focus of the POF program is on ones that are nearly market ready, or already in the market, but needing validation for utility program integration.
6. The POF program will continue its broad based collaboration efforts with relevant emerging technology research efforts at the federal and state agency level as well as with relevant educational entities and industry groups. Contractor currently provides direct support to the CEC PIER program and works closely with the U.S. Department of Energy on related efforts.

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8) Program Logic Model:



2009-2011 Energy Efficiency Programs Smart Controls for Pools and Spas Program Implementation Plan

- 1) Program Name: Smart Controls for Pools and Spas
 Program ID Number: TBD
 Program type: Third-Party

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes05 - Smart Controls for Pools & Spa	527,296	119,450	1,112,414	0	1,759,160
	TOTAL:	\$ 527,296	\$ 119,450	\$ 1,112,414	\$ -	\$ 1,759,160

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes05 - Smart Controls for Pools & Spa			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Smart Controls for Pools and Spas Program Implementation Plan

a) Describe program

This Program will allow for proper management of pool and spa heaters and pumps with improved controls and time-temperature algorithms. The controls reduce pump and heater runtime, as well as overheating of the pool. This Program will enhance the commercial target by reducing gas and electric consumption at those particular sites. Smart controls reduce consumption by managing the heaters properly, by not heating during non-use periods and allowing the sun to heat the water. Weather data from National Oceanic and Atmospheric Administration, along with current on-site data (outside air temperature, water temperature, heating capacity), is fed into a program that determines the exact hourly settings for each pool and spa to maintain the desired temperatures and maximize savings. Water flow, back pressure, and chemical readings will also help the pool vendor determine the optimal pump run times, back wash of filters, and chemical additives. The Program will provide proactive time-temperature devices that respond to current and past conditions along with user input and digital sensors to provide accurate control of pool and spa systems.

The Program's control devices are adjustable only by remote access using the internet. This control access method removes the possibility of others tampering with the control settings and allows for proper management of pool and spa heaters with improved controls. The system will also use wireless communication technology to gather data from the devices and a web-based interface and database technology to provide for transmission, storage, and access to data history and equipment control. Internet, cell phone, and email technology will be used to provide easy access to notification reports. The data collected by the devices and transferred through wireless transmission will include:

- Pool temperature,
- OSA temperature,
- Heater Run Time; and
- Pump Run Time.

A specifically designed web site will be available for contractors and customers. The contractors' section will contain:

- Online technical training in installation, maintenance, and operation of the controls,
- General information on energy efficiency programs; and
- Workshops, marketing materials and advertising information.

The consumers' section will include:

- Savings calculators,
- Basic systems operation instructions,
- Lists qualified contractors,
- Description of the program in particular,
- General information on energy efficiency programs; and

2009-2011 Energy Efficiency Programs Smart Controls for Pools and Spas Program Implementation Plan

- Graphic illustrations of usage before and after installation for personal tracking.

News and content on this site will be in Really Simple Syndication (RSS) format available to RSS-aware programs that check the feed for changes and react to changes in an appropriate way.

The Program will include education tools for pool vendors, site maintenance personnel, managers, and decision makers. This education will help ensure proper installation, maintenance of controls, and expand their use to other customers and sites.

b) List measures

Measure	Incentives (per unit)
Smart Controller	\$1,925

c) List non-incentive customer services

A specifically designed web site will be available for contractors and customers. The contractors' section will contain:

- Online technical training in installation, maintenance, and operation of the controls,
- General information on energy efficiency programs; and
- Workshops, marketing materials and advertising information.

The consumer section will include:

- Savings calculators,
- Basic systems operation instructions,
- Lists qualified contractors,
- Description of the program in particular; and
- General information on energy efficiency programs.

The program will include training of maintenance and vendor technicians to ensure proper installation and operation of the energy saving devices.

News and content on this site will be in Really Simple Syndication (RSS) format available to RSS-aware programs that check the feed for changes and react to changes in an appropriate way. Free subscription will provide for future contact information.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			

**2009-2011 Energy Efficiency Programs
Smart Controls for Pools and Spas
Program Implementation Plan**

Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

2009-2011 Energy Efficiency Programs Smart Controls for Pools and Spas Program Implementation Plan

c) Program Design to Overcome Barriers:

Southern California has the largest concentration of heated pools and spas in the country. Other energy efficiency measures that reduce consumption are more efficient pool heaters, solar hot water systems, and windbreaks all of which have been successful to varying degrees. Heater controls have remained essentially the same for the last 30 years. They control at one temperature (flat line) and maintain the temperature as long as the pump is running and most pumps are running 24/7 because of the misconception that such operation will keep the pool cleaner. The pool pumps are controlled by mechanical 24-hour devices, which do not provide changes for daylight saving or any other adjustments.

Barrier	Solution
Lack of consumer information about energy efficiency benefits	The Program will educate customers about smart controls for pools and spas.
Pool owners and operators do not understand the new energy efficiency technologies and thus are uncertain about the system performance levels	The Program will show customers that smart controls are actually more effective at keeping their pools and spas at a constant temperature.

d) Quantitative Program Targets:

Table 3

Program Name	Program Target by 2009	Program Target by 2010	Program Target by 2011
# of Pool Controls Installed	355	N/A	N/A
# of pools reached with flyers and information	1,290	N/A	N/A

Notes: Values provided represent yearly targets. This is a one-year program.

e) Advancing Strategic Plan Goals and Objectives

This program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
Energy Efficiency measures are addressed by changing operations and maintenance practices	Commercial	50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of	2-1: Lead by Example: State/local governments and major corporations commit to achieve energy

**2009-2011 Energy Efficiency Programs
Smart Controls for Pools and Spas
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Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
		deep levels of energy efficiency and with the addition of clean distributed generation.	efficiency, EE, (or green) targets in existing buildings.
Targets pools and spas at hotels, gyms, etc	Commercial	50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.	2-6: Develop effective financial tools for EE improvements to existing buildings.
Provides installer training and information and data for operators is provided on website	WE&T	Establish energy efficiency education and training at all levels of California's educational system.	1-3: Incorporate energy efficiency and demand side energy management into traditional contractor and technician training, such as for plumbers and electricians, and expand training resources to produce target numbers of trained workers.

6) Program Implementation

a) Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party Program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b) Program Delivery Mechanisms:

- i. Emerging Technologies program
Not applicable to this third-party program.
- ii. Codes and Standards program

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Not applicable to this third-party program.

iii. WE&T efforts

Provides installer training and information and data for operators is provided on website (9. Workforce Education and Training, Strategy 4)

In addition, this Program includes emphasis on education. Education will be provided at three levels, installation, maintenance, and use management. Many energy efficient controls and products are removed due to a lack of understanding the product. Monitoring of systems performance will alert the removal of products from systems but the education of vendors on the installation and operation will stop the removal and improve the system performance with proper use of products. Understanding the product will encourage vendors to provide the product to all of their customers to provide better service at a lower cost. Managers and decision makers will learn how to use this technology to better manage systems and properties, make their equipment last longer and put more money on the bottom line.

Program implementation will begin with a continuation of our marketing activities from 2008 and continue with the Contractor contacting all hotels, motels, city and private schools, universities, spas, non-profits (e.g. YMCA), large multi-family complexes, multi-use communities. The Contractor will continue presentations at trade organization meetings, advertising in the trade journals, and product demonstrations at trade shows. The Contractor will build upon our momentum of 2008 that generated much interest and exposure. In addition, the Contractor will continue to contact the pool heater manufacturers to make them aware of our intent, along with the wholesale pool suppliers, and pool vendors. Program staff will increase training to all on-site personal, pool vendors, and manufactures representatives as an added feature of our ongoing training programs.

Once a customer has agreed to participate in the Program, they will receive the following services:

- Program staff will verify eligibility and then conduct a pre-inspection to verify the site will qualify for the Program. The Program-approved contractor will then install the measures. All completed projects will be post-inspected by program staff. The Contractor will then begin data collection to measure and verify savings.
- The Contractor will receive the incentive payment directly from the Program implementer. Installation contractors will be paid by the Contractor.
- All Program contractors have agreed to offer Program-approved warranties on parts and labor of all installed equipment.
- The Program will use its existing quality control procedures to ensure high quality workmanship practices in the installation of Program measures and to ensure quality educational services have been provided to the end-use

2009-2011 Energy Efficiency Programs Smart Controls for Pools and Spas Program Implementation Plan

customers. The Program will conduct up to 75% random sample inspections.

- The Program will provide reporting consistent with CPUC requirements.

iv. Non-energy activities of program

Not applicable to this third-party program.

v. Non-IOU Programs

Not applicable to this third-party program.

vi. CEC work on PIER

Not applicable to this third-party program.

vii. CEC work on codes and standards

Not applicable to this third-party program.

viii. Non-utility market initiatives

Not applicable to this third-party program.

c) Best Practices

The Program design incorporates various best practice elements. Specific items include:

- Control devices optimize equipment performance;
- Use of wireless data devices reduces install costs;
- The monitoring of the program and results will provide SDG&E with validation and verification of the effectiveness of the program, and
- Technology is compatible with all other types of equipment and upgrades such as solar, alternative energy sources and more efficient equipment.

In addition, this Program includes emphasis on education. Education will be provided at three levels, installation, maintenance, and use management. Many energy efficient controls and products are removed due to a lack of understanding the product. Monitoring of systems performance will alert the removal of products from systems but the education of vendors on the installation and operation will stop the removal and improve the system performance with proper use of products. Understanding the product will encourage vendors to provide the product to all of their customers to provide better service at a lower cost. Managers and decision makers will learn how to use this technology to better manage systems and properties, make their equipment last longer and put more money on the bottom line.

d) Innovation

This Program is innovative in that it employs weather-responsive smart control devices that have been previously untapped in the pool and spa sector.

e) Integrated/Coordinated Demand Side Management

This program supports the ideals of integrated demand-side management by encouraging customer adoption of smart controls to achieve greater energy efficiency.

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Smart Controls for Pools and Spas
Program Implementation Plan**

f) Integration Across Resource Types (energy, water, air quality, etc)

The savings in therms will result in the reduction of air pollution and contribute to the statewide goal of carbon footprint reduction.

g) Pilots

This is not a pilot program.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

8) Program Logic Model

Third party programs are an implementation channel and are included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

- 1) Program Name: San Diego Retrocommissioning (RCx) Program
Program ID: TBD
Program type: Third-Party Program
- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes13 - Retro commissioning (RCx)	192,034	167,646	2,927,196	0	3,286,876
	TOTAL:	\$ 192,034	\$ 167,646	\$ 2,927,196	\$ -	\$ 3,286,876

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes13 - Retro commissioning (RCx)	5,700,000	0	171,000
	TOTAL:	5,700,000	0	171,000

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates.

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

a) Describe program

The San Diego Retrocommissioning Program provides services and incentives to support retrocommissioning of commercial buildings larger than 100,000 square feet in the San Diego Gas & Electric (SDG&E) territory. The Program recruits potential candidates, screens and benchmarks buildings to determine eligibility, qualifies retrocommissioning providers, and provides oversight of the retrocommissioning process. Throughout the retrocommissioning process, the Program oversees the retrocommissioning provider's investigation. Following investigation, the Program helps customers select measures for implementation then provides support throughout the implementation process to maximize energy savings. When implementation is completed, the RCx provider conducts verification of the measures and provides training to the building operators to maintain the measures and associated energy savings over time. Finally, the RCx Program installs performance tracking and monitoring equipment as an offering to approximately one third of the projects to provide ongoing monitoring and verification of energy savings.

The Program targets all commercial sectors, focusing on office, healthcare, hospitality, high-tech, and retail customers.

b) List measures

The Program provides retrocommissioning services and incentives for measures identified in the retrocommissioning investigation. Retrocommissioning is a systematic process for improving building performance by identifying and implementing low cost operational and maintenance improvements. The process focuses on the operation of mechanical equipment, lighting, and related controls, and is intended to optimize how equipment operates as an integrated system.

c) List non-incentive customer services

The San Diego RCx Program will provide a one-day workshop for the retrocommissioning industry and interested stakeholders. This class is intended to educate stakeholders and attract new participants and providers to the Program. In addition, the Program qualifies and provides training to retrocommissioning providers. This serves the retrocommissioning industry and customers by providing a high level of training for all providers.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric
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**2009-2011 Energy Efficiency Programs
Retrocommissioning
Program Implementation Plan**

	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

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We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

	Internal Market Transformation Planning Estimates		
Market Sector and Segment	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

Four major barriers to the Retrocommissioning Programs are identified in the following paragraphs and strategies to overcome these barriers are described.

Barrier: Ability of service providers to deliver consistent results that meet Measurement & Verification (M & V) requirements varies widely.

Solution: Provide protocols, tools and Quality Assurance - Quality Control (QA-QC) processes that will ensure expeditious and consistent delivery of services across projects.

Contractor's existing California retrocommissioning Programs have developed a pool of nearly 50 qualified RCx provider firms with demonstrated experience, skills and training. A comprehensive list of qualified providers can be viewed on the program website at www.sandiegorcx.com/providers. Contractor has gained extensive experience working with providers, and has continually developed and improved the program tools and the methods of working with the providers to achieve desired outcomes. Contractor has committed itself to ensuring that all provider deliverables meet the standards established by Contractor and by Company in the current program cycle. For the 2009-2011 Program, Contractor will leverage its relationships with and training of providers to move the Program forward quickly and smoothly.

When new providers are selected for projects, Contractor will conduct one-on-one program orientations to review the RCx provider tasks, the program tools, and the expectations for deliverables to bring them up to the level of more experienced providers. All deliverables submitted by providers, including reports, calculations and data, will be rigorously reviewed for accuracy and energy savings by Contractor and Contractor's Representatives. Feedback will be provided to each provider to verify and improve savings calculations on existing and future projects.

Barrier: Building owners are slow to commit to retrocommissioning, a relatively new strategy with uncertain outcomes.

Solution: Leverage existing relationships and marketing connections to quickly gain customer participation.

As a relatively new energy efficiency strategy, retrocommissioning requires a long sales cycle to obtain owner commitment. Contractor will rely on developed relationships with key customers in San Diego that will enable Contractor to quickly launch the 2009-2011 Program and obtain early commitments. Contractor's key marketing strategies will include leveraging existing relationships with building owners, networking through trusted industry associations, and marketing the confirmed success of past projects in the San Diego region.

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A number of building portfolio owner, with whom Contractor has developed relationships have identified additional retrocommissioning candidate buildings in their portfolios. As these building owners have gained experience with Contractor and the current Program, their relationships with Contractor have evolved into trusted business relationships. Contractor has made significant headway in educating San Diego-area building owners on the benefits of retrocommissioning.

Barrier: Retrocommissioning has a long measure implementation cycle; consequently, it is difficult to maintain project momentum and building owner engagement.

Solution: Involve building owners early in the process to reduce risks and maintain ongoing communication with the building owner and staff throughout the process to ensure movement forward.

Contractor's on-the-ground Field Energy Analyst will continue to build strong relationships with building owners from Day One of the project to ensure their full buy-in and establish lines of communication between the Program and the building owner. Participating owners who make the commitment to engage in the Program will agree to involve their staff in the investigation and implementation.

The Owner Program Agreement signed at the start of the project commits the owner to completing the implementation of all energy efficiency measures within 12 months of signature. If the building owner does not follow the timelines outlined by the Program, the incentives are put at risk. To ensure ongoing involvement of the building owner, the Field Energy Analyst will maintain communication with the owner throughout the project, provide regular project updates, and keep the owner on-task when their action is needed to drive the project forward. Retrocommissioning providers will be encouraged to offer turnkey services to building owners wherein the provider conducts the investigation *and* oversees the implementation of the identified measures, thus ensuring proper implementation.

Barrier: Measuring and verifying the persistence of energy savings from some operational adjustments can be challenging and costly.

Solution: Establish persistence strategies to ensure savings persist and to identify measures that are not performing to expectations.

To monitor persistence of energy efficiency measures, the Program will select projects to track post-implementation. Monitoring will include installation of a web-based energy tracking system that is accessible to the Program, the building owner and Company. This persistence tracking will be available for those projects and measures with the highest savings that are at the greatest risk. In addition to the use of persistence tracking tools, the Program's final phase for each project will continue to include the delivery of complete building documentation and in-depth training for the building staff. When building operators are properly trained on the new documentation, implemented measures, and requirements for ongoing maintenance and monitoring, they are much less likely to circumvent or tamper with the new measures as they address the building's

2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

operation and maintenance over time. Follow-up training will also include the hand-off of the ENERGY STAR® Portfolio Manager account and training on its use.

d) Quantitative Program Targets:

Table 5

San Diego RCx Program	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1 - applications	40	41	
Target #2 - screenings	37	43	
Target #3 - committed kWh	4.1	9.8	
Target #4 - installed kWh		4.1	9.9

Notes: Values provided represent yearly targets. There is no target for 2011 due to the nature of the program. There is a long sales and implementation cycle and in order to complete projects you must allow 12 to 18 months from start to finish.

e) Advancing Strategic Plan goals and objectives:

The California Energy Efficiency Strategic Plan, required by the California Public Utility Commission (CPUC) Decision 07-10-032, calls for strengthening the retrocommissioning efforts within the Investor Owned Utility (IOUs), using benchmarking information to identify and screen candidate buildings. The San Diego RCx Program will provide building screening and benchmarking in addition to supporting broader education in the market to increase awareness of and willingness to fund retrocommissioning.

The Program supports the near-term goals to have 500 million square feet of commercial space and 100 local governments commit to benchmarking and retrocommissioning by 2012. In addition to providing retrocommissioning services, the Program will benchmark all enrolled buildings using the Environmental Protection Agency's (EPA's) Portfolio Manager tool.

This program supports the Strategic Plan in the following manner:

- Program utilizes ENERGY STAR benchmarking and is utilizing tools and strategies to move commercial buildings toward zero energy use (3. Commercial Sector, Strategy 2).
- Ensures that HVAC and controls contractors are involved early in RCx process to ensure quality HVAC installation and maintenance (6. Heating, Ventilation and Air Conditioning, Strategy 2).
- Program utilizes whole building audits to identify multiple resource savings opportunities – EE and DR, and other resources (8. DSM Coordination and Integration, Strategy 3).
- Provides training to building managers for ongoing operation and maintenance of buildings after project implementation (9. Workforce Education and Training, Strategy 4).
- Program utilizes whole building audits to identify multiple resource savings opportunities – EE and DR, and other resources (7. Codes and Standards, Strategy 1.3)

2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

- Provides training to building managers for ongoing operation and maintenance of buildings after project implementation. (9. Workforce Education and Training, Strategy 1.2)

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:

- i. Emerging Technologies program
Not applicable to this program.
- ii. Codes and Standards program
Not applicable to this program.
- iii. WE&T efforts
Not applicable to this program.
- iv. Program-specific marketing and outreach efforts (provide budget)
Not applicable to this program.
- v. Non-energy activities of program
Not applicable to this program.
- vi. Non-IOU Programs
Not applicable to this program.

vii. CEC work on PIER

The San Diego RCx program will support the California Energy Commission Public Interest Energy Research (CEC-PIER) goal of increasing the adoption of energy efficiency measures in California. The Program will provide a channel for the testing and adoption of PIER-funded tool development, such as

2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

retrocommissioning measure tools and calculators. As PIER research identifies new strategies and tools in retrocommissioning, the San Diego RCx Program will be in an ideal position to deliver these to the market and increase adoption of best practices. Finally, the data collected from the large number of RCx projects completed through the Program could provide PIER with the opportunity to further understand and communicate the costs and benefits of retrocommissioning.

viii. CEC work on codes and standards

Not applicable to this program.

ix. Non-utility market initiatives

Pursuing retrocommissioning is a growing trend among commercial building owners. RCx identifies the hard-to-find low-hanging fruit, with energy savings that pay back in 2 years on average and can provide 5-20% energy savings. Generally, building owners are looking for more and more ways to find energy savings in their buildings without the costly outlay of retrofits. RCx offers a low cost, high return on investment opportunity to identify and realize significant operational savings.

The San Diego RCx Program aligns with a number of non-utility efforts to provide viable low cost energy saving strategies for building owners. The RCx Program provides participants with an Energy Performance Rating obtained through the Environmental Protection Agency's ENERGY STAR® Portfolio Manager, building on the momentum in the market behind benchmarking buildings to track performance over time. Recently, Co-Star, the commercial multiple listing service, began including ENERGY STAR ratings in property listing, providing an even stronger market push for more energy efficient buildings. Finally, the RCx program aligns with the Building Owners and Managers Association Energy Efficiency Program (BEEP) which helps owners identify no- and low-cost energy savings opportunities.

c. Best Practices:

The Program will leverage lessons learned and best practices from the retrocommissioning programs across the state. The program incorporates a variety of best practices, including:

- Program Management: The program has developed and maintains clear lines of responsibility and communication and uses well-qualified engineering staff.
- Program Participation Process: Program keeps the application process and forms from being overly complex and costly to navigate, provides technical assistance to help applicants through the process, and has developed a cadre of trade allies who can then assist customers through the process.
 - The Program provides comprehensive project support services for the customer from start-to-finish, focusing on reducing the “hassle factor” by guiding the customer through the project and ensuring proper documentation

2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

of all work conducted. The Program also works very closely with the RCx providers, ensuring providers receive the support and training they need. For each new provider, Contractor conducts a one-on-one program orientation with the provider to review tasks and expectations for deliverables.

- The Program also develops an ongoing relationship with providers to ensure projects are on schedule and deliverables are received. Finally, the Program facilitates multiple project-level check-ins to ensure constant communication between the RCx provider, building owner and operations staff, and the Program.
- **Verification, Measurement and Quality Control:** To ensure the reliability of savings, Contractor provides clear tools, guidelines, and training to RCx providers, pursues a rigorous QA-QC process on all Program deliverables and performs post-implementation site visits to ensure measures are implemented. Following implementation, the Program focuses on educating building owners to optimize the operation of the building and to ensure that the installed savings persist over time.

d. Innovation:

- The Program will identify buildings that are candidates for Company demand response programs and refer owners to demand response program representatives.
- The Program will enhance its performance tracking strategy with the application of new tools to help ensure measures persist in the buildings with the highest savings and highest levels of persistence risk.

e. Integrated/coordinated Demand Side Management:

Not applicable to this program.

f. Integration across resource types

Not applicable to this program.

g. Pilots:

Not applicable to this program.

h. EM&V:

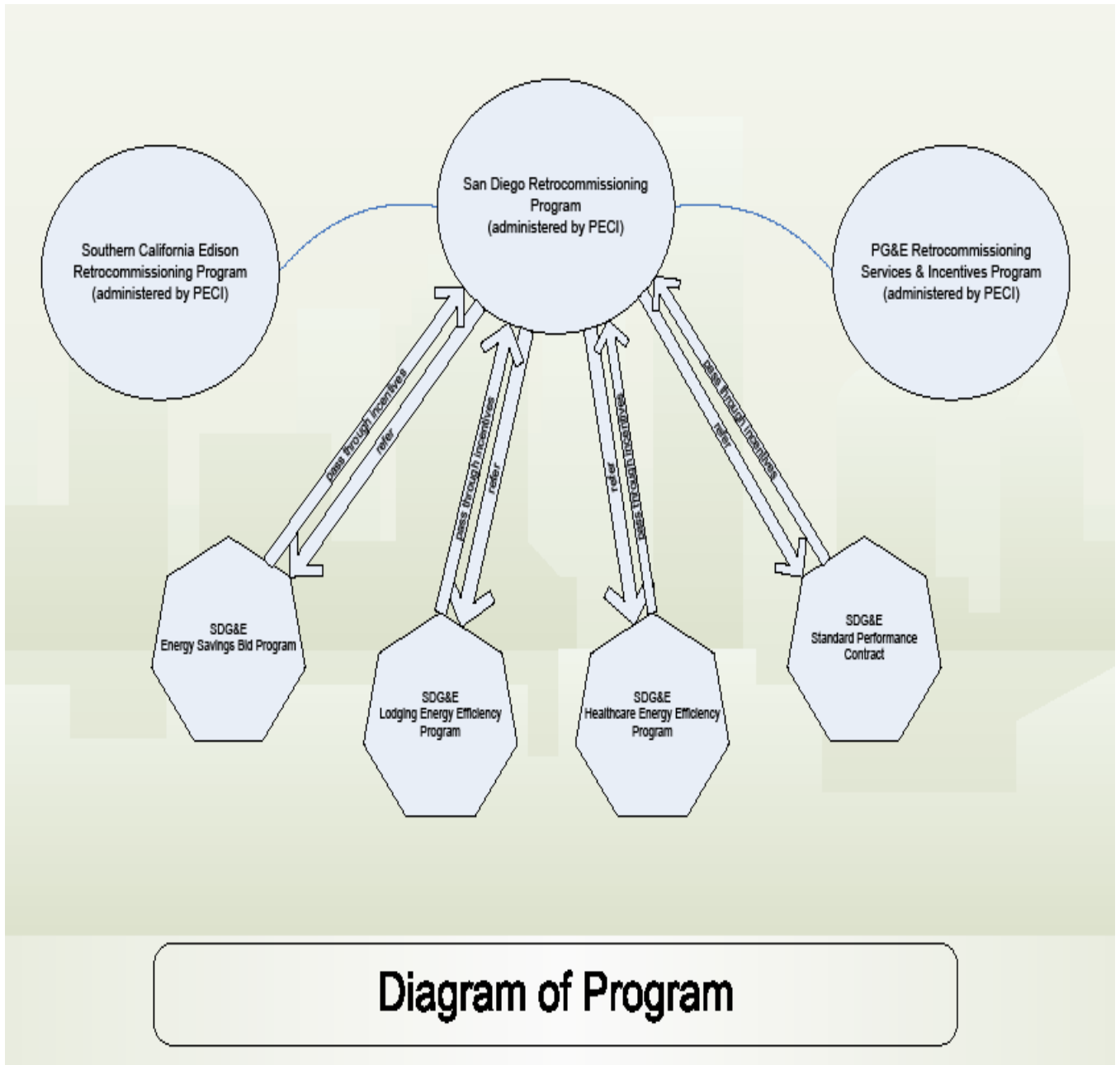
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program

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implementation has begun, since plans need to be based on identified program design and implementation issues.

2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

7) Diagram of Program:

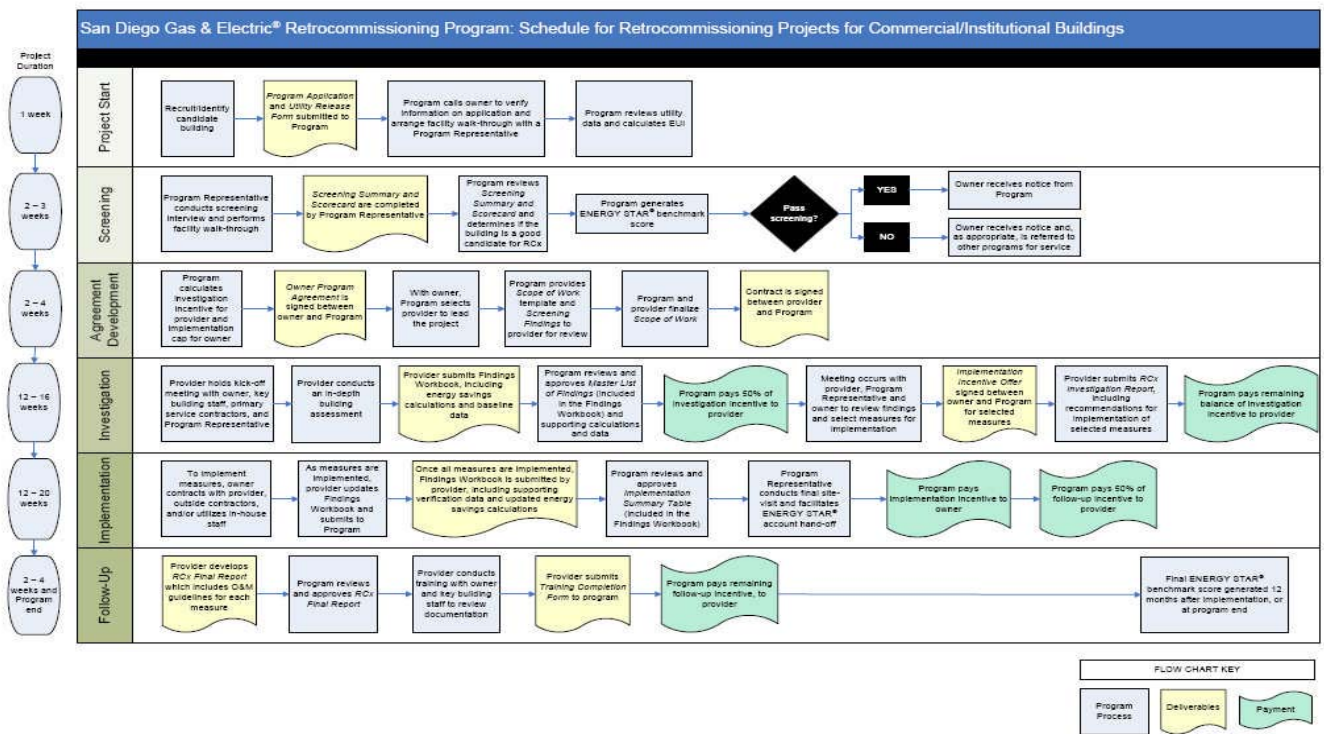


2009-2011 Energy Efficiency Programs Retrocommissioning Program Implementation Plan

8) Program Logic Model:

Third party programs are an implementation channel and are included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

In lieu of a Program Logic Model, the *San Diego Gas & Electric Retrocommissioning Program: Schedule for Retrocommissioning Projects for Commercial/Institutional Buildings* is provided to further clarify the process flow for buildings enrolled in the Program.



2009-2011 Energy Efficiency Programs Resistant Heating Program Implementation Plan

- 1) Program Name: Resistant Heating
 Program ID: TBD
 Program type: Third-Party Program

- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-Res03 - Electric Resistant Heating Program	494,196	182,500	1,838,505	0	2,515,201
	TOTAL:	\$ 494,196	\$ 182,500	\$ 1,838,505	\$ -	\$ 2,515,201

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-Res03 - Electric Resistant Heating Program			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resistant heating has specific estimated savings and demand impacts.

**2009-2011 Energy Efficiency Programs
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a) Describe program

The Electric Resistant Heating Program will provide new and measurable direct savings via the installation of a thermostat(s) for electric radiant heating in all-electric single family (SF) and multi-family (MF) homes. This service will only be provided for customers in the Company service territory that have outdated, ineffective, or defective controls. The existing ineffective or defective controls do not provide a functional on/off position or are out of calibration.

Using a cost-effective approach and new thermostat technology that produces dependable results for a long period of time, this Program facilitates the installation of replacement thermostats in residences with electric radiant heating systems.

b) List measures

Program Energy Efficiency Measures and Incentives

Measure #	Retrofit Measure Description	Incentive/Rebate per Measure
1	High Performance Electric Heat Thermostat	\$90.39

c) List non-incentive customer services

A major innovation is the mindset of linking the installation of high performance electrical thermostat controls with educating customers (users) on how to optimize the controls for maximum comfort and energy savings. In addition, the Company is taking advantage of this contact to educate the customer about the other energy efficiency programs that might be available to this customer.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

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The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

One of the major barriers of installing a High Performance Thermostat is that people are frequently not capable of handling the installation processes and therefore do not move forward with replacement of controls that would provide greater energy efficiency. One

**2009-2011 Energy Efficiency Programs
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of the best ways to overcome this barrier is to provide trained technicians that are certified in the electrical installations that are required to have a properly functioning electric thermostat control.

Using a cost-effective approach and new thermostat technology that produces dependable result for a long period of time, this Program facilitates the installation of replacement thermostats in residences with electric radiant heating systems. The direct installation of high performance electrical thermostat controls will be in conjunction with educating the customers on how to optimize the controls for maximum comfort and energy savings. Certified and trained technicians will train the customer/user how to fully utilize the new thermostat.

Contractor is expected to rely on existing relationships working with property owners and managers, apartment associations, and water districts, serving the needs of MF dwellings in the San Diego territory. Contractor is also expected to rely on similar working relationships in the single-family market to enhance customer satisfaction in this market segment.

A key part of this Program is the mind-set that Contractor should also work to educate the customer on the value of the equipment and appropriate settings to optimize energy savings.

d) Quantitative Program Targets:

Table 5

Electric Resistance Thermostat Program	Annual Installation Schedule		
	Program Target by 2009	Program Target by 2010	Program Target by 2011
Target #1— Electric Resistant Thermostats Installed	4,500	15,000	15,000
Target #2—Number of Customers Served	1,500	6,000	6,000

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

The Electric Resistant Heating Program supports the California Long Term Energy Efficiency Strategic Plan by: (1) installing a new energy efficient HVAC control; (2) addressing a major maintenance issue using reliable and accurate technologies; (3) promoting quality installation, and (4) promoting electric savings opportunity.

This measure specifically fulfills the following goals and strategies from the Strategic Plan:

- (1) 6.3 HVAC Goal 2—Quality installation and maintenance becomes the industry and market norm.
- (2) 6.3 HVAC Goal 4—New climate appropriate HVAC technologies are developed with accelerated market penetration

**2009-2011 Energy Efficiency Programs
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(3) 8.4 DSM Integration Strategy 1—Continue successful efforts with pilot programs designed to inform future program and policy submissions regarding the value and best methods and targets of integration.

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:

i. Emerging Technologies program

The Electric Resistance Heating Thermostat Program facilitates the diffusion of the new generation of electric heating thermostats in providing a much more precise control of resistance-rated electric heating equipment. Advanced line-voltage thermostats, such as electronic thermostats, can offer more accurate and responsive temperature control, improve occupant comfort, and potentially reduce heating energy consumption by about 7 to 10 percent. Good thermostats deliver accurate and tight temperature control when controlling a wide range of heater sizes, and over a wide range of climates and operating conditions resulting in efficient use of energy and more savings to customers.

ii. Codes and Standards program

The Electric Resistance Heating Thermostat Program is in line with California's attempt to improve codes and standards by implementing the use of advanced high performance electric heat thermostats. Features of these energy efficient units include:

- Advanced electronic temperature control in a non-programmable thermostat minimizes temperature swings to +/- 0.5 degree C/ 0.09 degree F.
- Backlit display enhances readability.
- Quiet Operation
- On-screen heating power indicator gives at-a-glance verification of power being used.

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- On/Standby switch enables thermostat shutdown at end of heating season for added security.
- Replaces virtually all standard wall-mounted line-voltage thermostats.
- Battery free (No batteries shall be required for operation).

iii. WE&T efforts

The Electric Resistant Heating Program supports the California Workforce Education & Training Plan by: (1) Providing installation of measures by certified technicians that focus on energy efficiency and demand side management (DSM); (2) Offering necessary training and certification for technicians to develop new skills and knowledge; and (3) Providing educational material and training directly to customers or residents so that ongoing energy savings are realized.

Additionally, Contractor will provide training (via a Company established Web cast or in person at a Company facility) on their Program to the Company's customer field representatives at the event.

iv. Program-specific marketing and outreach efforts (provide budget)

Market/Customer Served /Targeted Customers:

- a. The Program begins its efforts in the marketing department by doing research for all SF and MF units available, by target market. In the Company service territory, there exist approximately 5,000 apartment buildings and may possibly target mobile home parks for marketing and replacement of poorly performing equipment and controls. The MF managers and owners and SF residents and owners are then approached about the program to identify those that are interested in participating. The marketing budget for 2009-2011 is \$250,000.

Marketing and Education Material:

- b. The success of this Program can be attributed to the trust to be established between various parties, the outreach associates, technicians, homeowners, residents, and property managers/owners, involved in the implementation of this Program. After closely working with customers, a date is set for the installations. Pre-installation work begins immediately to notify the tenants ahead of time of the work to be completed within their apartment complex or neighborhood. A letter is sent out that explains what will be taking place and when.
- c. Other marketing activities include direct mail pieces, ads in magazine, and working with local community organizations, including the Apartment Owners Association. Company will approve all collateral prior to it being mailed.
- d. Another major innovation is the mind-set of linking the installation of high performance electrical thermostat controls in conjunction with educating the customers (users) on how to optimize the controls for maximum comfort and energy savings. This is accomplished via hands-on training and simple to use user brochure.
- v. Non-energy activities of program

2009-2011 Energy Efficiency Programs Resistant Heating Program Implementation Plan

This Program, in addition to the energy savings activities, also provides a boost to a segment of the population that is ill-equipped, because of age, language or the complexity to install these measures. Absent this Program, this segment of the population and associated energy savings could be overlooked.

vi. Non-IOU Programs

The Program helps support the *Western Climate Initiative* with the utilization of advanced energy efficient technologies and reduces the carbon footprint created by single family and multi-family residences in California. In addition, in a declining economy this Program will help create jobs for technicians, engineers, marketers, administrators and other individuals involved in its implementation.

vii. CEC work on PIER

The success of the Electric Resistance Heating Thermostat Program will be enhanced by developing partnership arrangements between utilities and local governments. This Program is designed to work smoothly with a number of community organizations and associations, including mayors and city councils in combining efforts to promote energy efficiency within numerous communities.

Codes and standards are satisfied in various ways in this Program. The electric resistance thermostat is a high quality and documented energy efficiency device. The services and installations are conducted by certified and trained technicians. Contractor's technicians are trained to maintain a high standard of quality installations. Additionally, Contractor completes an evaluation and assessment of the residence using an employed "Comfort Energy Consultant." The quality installations may also be remotely verified via "Smart" systems maintained by the Company.

viii. CEC work on codes and standards

This is not applicable to this program.

ix. Non-utility market initiatives

The Program helps support the Western Climate Initiative with the utilization of advanced energy efficient technologies and reduces the carbon footprint created by single family and multi-family residences in California. In addition, the Program meets important objectives by reducing greenhouse gas emissions, especially CO₂, NO_X, and PM-10 emissions.

c. Best Practices:

The approach for the Electric Resistant Heating Program is designed as a per unit cost approach. All costs for the program will be factored into the core measure installed and invoiced as the work is completed and approved by Company. The program design incorporates various best practice elements. Specific items include:

- While there are a wide variety of controls in the marketplace, Contractor will choose a control that has a long-life and provides consistent and dependable management of heating conditions.

**2009-2011 Energy Efficiency Programs
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Program Implementation Plan**

- Eliminating unnecessary and large swings in their equipment with the replacement of a High Performance Electrical Thermostat means that people will not have to be constantly adjusting to gain heat comfort. Education will focus on the use of the equipment and the value of setting the thermostat to modest, yet comfortable levels to maximize energy savings.
- Contractor will have a team lead on-site to help coordinate the activities of the technicians and maintain communication with the property manager regarding activities that are taking place at the property.
- Contractor would follow-up with site managers to assess customer satisfaction through Customer Feedback Postcards and Quality Assurance calls; additionally Contractor will also physically inspect approximately a random sample of 5% of all work completed.

d. Innovation:

Contractor's marketing program to this targeted sector is in itself a marketing innovation that has resulted in a high level of service and saturation within MF complexes and SF residences.

Contractor begins its efforts in its marketing department by doing research for all SF and MF units available, by target market. There are about 5,000 apartment buildings and also possibly targeting mobile home parks for marketing and replacement of poorly performing equipment and controls in the Company service territory. The MF managers and owners and SF residents and owners are then approached about the program to identify those that are interested in participating.

e. Integrated/coordinated Demand Side Management:

This Program offers an innovative outreach and consumer education regarding the installed measure as well as additional energy efficiency programs available including demand response and DSM options. The Program includes a basic evaluation and assessment and recommendations which include many relevant energy management opportunities which the customer may take advantage of including advice on energy efficiency, demand response, distributed generation, Permanent Load Shifting (PLS), solar rebates, and other applicable measures. In addition, the installed technology is a proven DSM measure which is energy efficient and reduces energy consumption.

f. Integration across resource types (energy, water, air quality, etc):

This program currently targets only energy.

g. Pilots:

This program is not anticipating any pilots.

h. EM&V:

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are

**2009-2011 Energy Efficiency Programs
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filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program:

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6.

**2009-2011 Energy Efficiency Programs
Resistant Heating
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8) Program Logic Model:

Third party programs are an implementation channel and are included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed. However, the following summary of the program's logic is provided.

The Program's logic model follows:

Inputs or Outputs	Description	Expected Short-term Outcome	Expected Long-term Outcome
Input	Resources: 1. Design program and educational materials to use with customers. 2. Develop implementation plan. 3. Set benchmarks. 4. Monthly accountability and reporting. 5. Assure that financial resources are available for sufficient operating capital. 6. Allocate management, office team, production team and quality control. 7. Meet with Company representatives on a regular basis.	These resources will allow the program to get launched in an organized and productive manner that sets up benchmarks and monitors program progress, quality and success.	These resources ultimately will contribute to the successful implementation and completion of this program, achieving the program energy savings and goals.
Input	Activities: 1. Have team planning session with all partners and associates. 2. Kick-off marketing and installation. 3. Conduct training with technicians on processes and equipment. 4. Kick-off quality control program and review, installations and customer surveys. 5. Monthly reporting of program progress. Regularly confer with the utility on program progress, opportunities and challenges. 6. Complete the Final Report with Program Outcomes.	Contractor would expect to see from the implementation of these activities that the program comes on line on a timely basis, is meeting program benchmarks on a monthly basis, allowing for a regular evaluation and progress report together with Company. There would be no surprises with this program. From the customer surveys Contractor will also be able to assess customer satisfaction and take actions to enhance program implementation.	By implementing these activities Contractor should have steadily worked toward the successful completion of this program on or ahead of time.
Input	Market Actors: 1. Outreach personnel. (Innovative Approach)	With the engine of Contractor's marketing and outreach personnel	These individuals, coming together, provide the SF and MF

**2009-2011 Energy Efficiency Programs
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Inputs or Outputs	Description	Expected Short-term Outcome	Expected Long-term Outcome
	2. Marketing Research and Direct Mail Manager (Innovative) 3. Customer service. 4. Liaison with property managers, owners, homeowners, residents. 5. Community outreach. 6. Technicians (program brochures—indicating other EE programs).	connecting with communities, homeowners, residents, property owners and managers, Contractor will be able to explain the benefits of the program and market it to the customers.	targeted market customer base to where the energy savings services will be provided.
Outputs	Customers reached through flyers and outreach: ≈25,000 Customers serviced through program: ≈13,500 Measure installations complete: ≈34,500	The month-by-month report will show the systematic realization of the program goals and objectives.	The successful completion of the program goals and objectives as outlined in this program.

2009-2011 Energy Efficiency Programs Hot Water Control with Continuous Commissioning Program Implementation Plan

- 1) Program Name: Hot Water Control with Continuous Commissioning
 Program ID Number: TBD
 Program type: Third-Party Program
- 2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes02 - SaveGas – Hot Water Control	62,971	22,969	179,276	0	265,216
	TOTAL:	\$ 62,971	\$ 22,969	\$ 179,276	\$ -	\$ 265,216

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

- 3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes02 - SaveGas – Hot Water Control			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

- 4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for Source Programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Hot Water Control with Continuous Commissioning Program Implementation Plan

a) Describe program

This program addresses gas savings in SDG&E's service territory by implementing domestic hot water control systems in hotels, motels, resorts and senior care facilities, plus their associated hot water consumers (e.g. on-site kitchen and laundry facilities). A typical equipment arrangement consists of a hot-water storage tank, a hot-water boiler which includes a circulation pump, a loop or network of piping to supply the heated domestic hot water to the facilities guest rooms/dwelling units, and a recirculation pump on the return line from the piping loop.

The Program will be implemented using the following steps:

- Presentation to Customer -- The customer will participate in a web-based interactive presentation which shows the controller in use at a similarly-sized facility. During this presentation, the customer will learn how they will be able to validate the ongoing savings and how to use the system as a management tool allowing proactive monitoring and verification.
- Facility Pre-installation Analysis/Audit -- After the customer provides a list of properties, technicians will perform an onsite survey of the hot water systems looking for existing issues, i.e., system layout, applicability and proper installation and operation of the existing equipment. A general analysis of the property is completed including gas consumption history, and general building layout. The information is captured and logged online.
- Proposal -- Based on the pre-installation analysis, the Contractor will generate a proposal for the project. The proposal states the minimum savings that will be achieved, the ongoing economic value, return on monthly investment, net savings, payback period, etc. The customer is informed that the Contractor equipment will be installed at no cost to the customer. However, the customer's commitment is to pay \$1.00 per room per month for the continuous commissioning service, data analysis/tracking, consulting and control maintenance and updates.
- Installation of Equipment -- After the contract has been authorized, the Contractor will install the equipment. Installation includes the Contractor's domestic hot water controllers, Contractor's computer(s) and Contractor's proprietary communication network. All of the equipment, installation and configuration settings are logged online. At this point in the process, the controls are set up just to monitor and establish a baseline/benchmark of the customer's facility. On site training takes place in which the installation technician provides an overview of how the technology works, how to bypass the computer in case of an emergency and how to go online for systems analysis. Additionally property contact information is captured so that the system can notify the appropriate onsite personnel should a hot water issue be detected.
- Commissioning the Contractor's Control Systems - Once a period of baseline operation has been established and recorded (approximately two weeks) the system is commissioned for operation. This entails switching the computers into control mode and adjusting delivery temperatures to provide optimal operation for the facilities equipment. Contractor's administrative personnel conduct formal training for the property and management. During this training the SaveGas website is configured so that customers can go online and view their data, analyze their site and set themselves up to receive alerts for hot water issues.

2009-2011 Energy Efficiency Programs Hot Water Control with Continuous Commissioning Program Implementation Plan

- Ongoing Savings, Monitoring and Verification - The controllers provide ongoing savings and the monitoring and verification tools track the overall system performance and savings looking for deviations that might interrupt or impede the savings or system efficiency.

b) List measures.

The Program will implement three process improvement components:

- Sensors and Data logger – Sensors and data loggers will allow the Contractor to identify inefficiencies in domestic hot water systems to determine how much the maximum set point may be reduced while still providing the minimum required hot water temperature to the rooms. This can lead to significant energy savings.
- Set-Back Domestic Hot Water Thermostat Controller –A programmable set-back temperature controller saves energy by lowering the water heating thermostat setting during times of low water usage. The controller can be programmed remotely or on-site.
- Continuous Commissioning[®] – Continuous commissioning maintains long-term energy savings by using ongoing monitoring of energy consumption and system parameters with follow-up commissioning, as needed. Without continuous commissioning taking place, system problems can continue for months without being detected and repaired. Continuous commissioning is an essential part of the long-term gas savings from hot water thermostat controllers.

Measure	Incentive (per unit)
Domestic Hot Water Controller	Full cost of controller

c) List non-incentive customer services

Although this Program does not include any structured non-incentive customer services, end-use customers are continuously educated and made aware of the savings achieved through on-going interactions between the Contractor and the customer.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information:

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			
Sub Program #3			

2009-2011 Energy Efficiency Programs Hot Water Control with Continuous Commissioning Program Implementation Plan

Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

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We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

b) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

c) Program Design to Overcome Barriers:

Almost every domestic hot water system has deficiencies and system malfunctions which result in excess use of natural gas for water heating. There are documented cases in

**2009-2011 Energy Efficiency Programs
Hot Water Control with Continuous Commissioning
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which wasted energy from water heating has been as high as 119 therms per hotel room annually and similar per residential unit. This Program will implement a hot water controller with a programmable setback feature to help identify existing and future system malfunctions and control gas consumption.

Barrier	Solution
Lack of consumer information about energy consumption of domestic hot water systems.	The Program offers a continuous commissioning service which consists of automated monitoring and analysis of the domestic hot water system performance at all times, along with prompt notification of system malfunctions to the owner/operator of the facilities.
Lack of consumer information on technologies to improve energy efficiency of domestic hot water systems.	This Program offers a proprietary domestic hot water controller technology combined with continuous commissioning services. To deliver the most efficient level hot water, the controller uses measurements of: <ul style="list-style-type: none"> • Hot water temperature supplied to distribution piping loop, • Hot water temperature returning from distribution piping loop; and • Cumulative seconds of run-time of each boiler in the hot water system.

2009-2011 Energy Efficiency Programs Hot Water Control with Continuous Commissioning Program Implementation Plan

d) Quantitative Program Targets:

Table 5

Hot Water Control with Continuous Commissioning	Program Target by 2009	Program Target by 2010	Program Target by 2011
# of Hotel/Motel Rooms with Control Installed	3,000	3,000	3,000
# of Senior Care Dwelling Units with Control Installed	1,200	1,200	1,200
# of Laundry / Kitchens with Control Installed	15	15	15

Note: Values provided represent yearly targets.

e) Advancing Strategic Plan goals and objectives:

This Program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
Direct program involvement of the technology's manufacturer, EDC Technologies, Inc. helps lead to increased development and utilization of energy-efficient products and services and implement activities that create favorable conditions for EE technology investment and development.	Research & Technology	Create demand pull and set the research agenda to pursue both incremental and game-changing energy efficiency technology innovations.	1-2: Leverage private industry and Federally funded technology research and investment
Through statewide collaborations and active participation in the CEC's PIER program, EDC Technologies through this program will expand activities to create market pull for energy efficient technologies	Research & Technology	Create demand pull and set the research agenda to pursue both incremental and game-changing energy efficiency technology innovations.	1-4: Expand activities to create market pull for energy-efficient technologies
Through program, EDC works collaboratively with the R&D community and utilities to promote cost-effective performance enhancements.	Research & Technology	Conduct targeted emerging technologies R&D to support the Big, Bold Energy Efficiency Strategies/Programmatic Initiatives and integrated energy solutions goals.	2-2: Promote cost-effective near term performance enhancements of existing technologies
Through statewide collaborations and active participation in the CEC's PIER program, EDC Technologies through this program will expand activities to create market pull for	Research & Technology	Conduct targeted emerging technologies R&D to support the Big, Bold Energy Efficiency Strategies/Programmatic Initiatives and integrated energy solutions goals.	2-3: Develop initiatives aimed at PIER to support larger gains in support of Big Bold Initiatives.

**2009-2011 Energy Efficiency Programs
Hot Water Control with Continuous Commissioning
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Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
energy efficient technologies			

6) Program Implementation

a. Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POE programs

This third-party program only operates within SDG&E's service area. The Program is designed to support and complement SDG&E's core program activities. If this Program shares common elements with the IOU's core programs, other third-party programs, or programs in other IOU service areas, SDG&E and the Contractor will strive to coordinate the similar activities.

b. Program delivery and coordination:

- i. Emerging Technologies program
Not applicable to this third-party program.
- ii. Codes and Standards program
Not applicable to this third-party program.
- iii. WE&T efforts
Not applicable to this third-party program.
- iv. Program-specific marketing and outreach efforts (provide budget)
Marketing efforts will target the decision-makers within the property management company, typically the Controller, Chief Operations Officer or Chief Financial Officer. Target markets include hotels, motels, resorts and senior care facilities plus their associated hot water consumers, i.e. onsite kitchen and laundry facilities within the SDG&E service territory. Ideally, the Program would install the controller technology in all of the hot water systems at multiple locations, allowing customers to manage their systems consistently across their entire portfolio of properties.
- v. Non-energy activities of program
Not applicable to this third-party program.
- vi. Non-IOU Programs

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Not applicable to this third-party program.

vii. CEC work on PIER

The Contractor is participating directly in the CEC-PIER program and our technology is being utilized directly for establishing Title 20 and Title 24 guidelines.

viii. CEC work on codes and standards

Not applicable to this third-party program.

ix. Non-utility market initiatives

Not applicable to this third-party program.

c. Best Practices:

The program design incorporates various best practice elements. Specific items include:

- The monitoring and evaluation tools to continuously keep track of system performance and savings allowing for continuous process optimization, and
- Prompt notification of system malfunctions that occur on a customer's site and documentation as to the impact of energy waste.

d. Innovation:

This Program makes use of an innovative user interface to monitor equipment functions, energy savings, and waste from failures. Through this interface, energy conservation becomes an integral part of daily operations, as opposed to a concept or widget that is installed and forgotten.

e. Integrated/coordinated Demand Side Management:

The savings data generated from the SaveGas Hot Water Control with Continuous Commissioning Program are being directly used by CEC/PIER in their statewide study. Additionally, the Contractor has been directly consulted to craft title 21 and title 24 codes and standards.

f. Integration across resource types:

This is not applicable to this third-party program.

g. Pilots:

The kitchen and laundry components of the 2009-2011 Program are pilot projects.

h. EM&V:

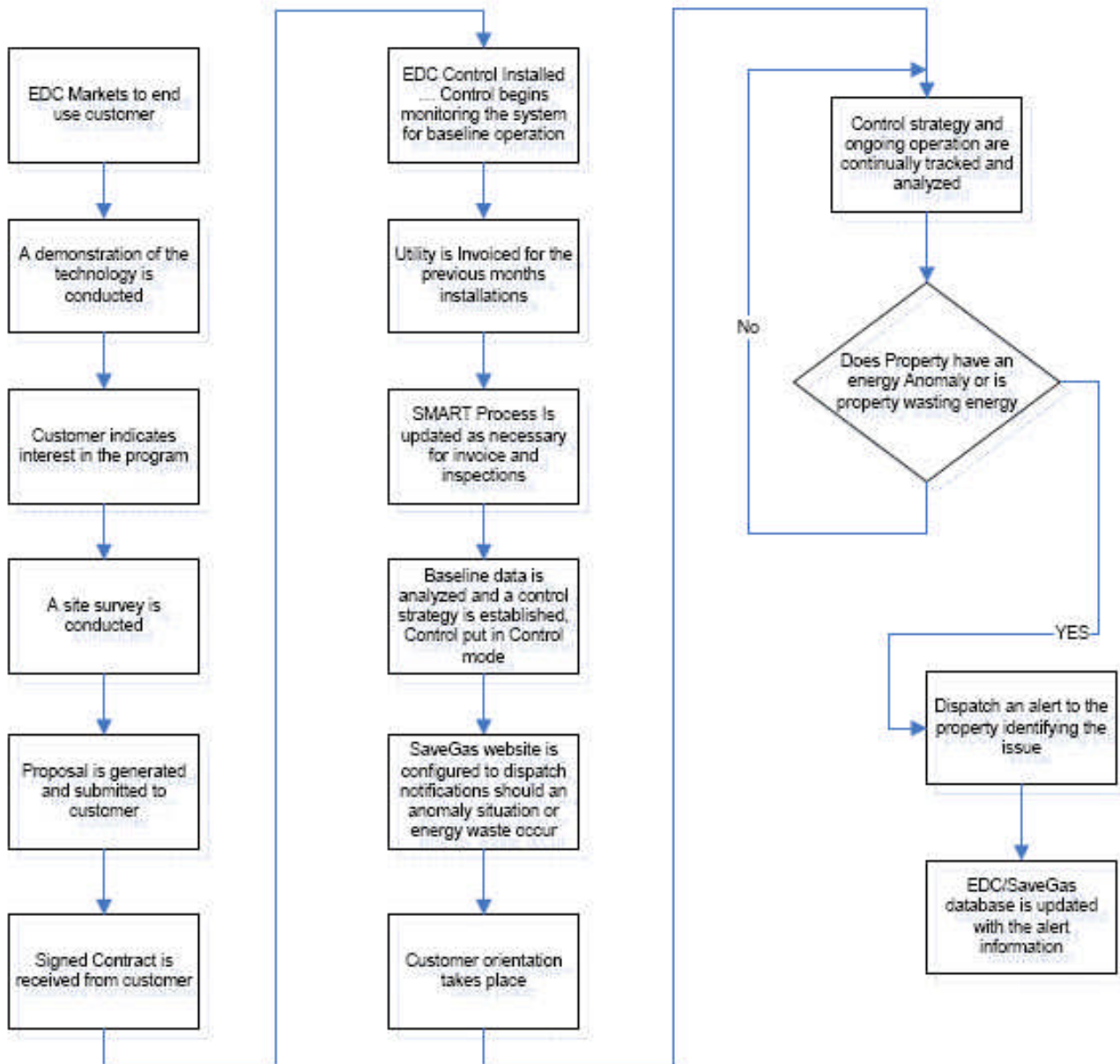
The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after

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the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

7) Diagram of Program:

No specific program diagram for this third party program has been developed. Any program linkages are discussed in Section 6. The following diagram shows the Program's implementation process.



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8) Program Logic Model:

Third party programs are an implementation channel and are included in the appropriate market segment logic models. No specific logic model for a particular third party program has been developed.

2009-2011 Energy Efficiency Programs Energy Efficient Water Pumping Program Implementation Plan

- 1) Program Name: Energy Efficient Water Pumping
 Program ID Number: TBD
 Program type: Third-Party Program

2) Projected Program Budget Table

Table 1¹

Program #	Main Program Name / Sub-Programs	Total Administrative Cost (Actual)	Total Marketing & Outreach (Actual)	TOTAL Direct Implementation	Integration Budget Allocated to Other Programs (if Applicable)	Total Budget By Program (Actual)
Market Sector Programs						
	3P Non-Residential					
	3P-NRes06 - Energy Efficient Water Pumping	69,632	8,800	52,766	0	131,198
	TOTAL:	\$ 69,632	\$ 8,800	\$ 52,766	\$ -	\$ 131,198

Final third party program budgets are subject to change based on Commission approval and final negotiations.

These budget numbers are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.1 - 2009 - 2011 IOU Strategic Planning Program Budget

3) Projected Program Gross Impacts Table

Table 2

Program #	Program Name Sub- Programs	2009 - 2011	2009 - 2011	2009 - 2011
		Three-Year EE Program Gross kWh Savings	Three-Year EE Program Gross kW Savings	Three-Year EE Program Gross Therm Savings
Market Sector Programs				
	3P Non-Residential			
	3P-NRes06 - Energy Efficient Water Pumping			
	TOTAL:	0	0	0

Final third party program energy savings are subject to change based on Commission approval, DEER update and final negotiations.

These savings values are presented in Appendix F: Energy Division Tables, Graphs & Pie Charts: Table 7.2 - IOU 2009 - 2011 Program Savings Estimates

4) Program Description

¹ Definition of Table 1 Column Headings: Total Budget is the sum of all other columns presented here

Total Administrative Cost includes all Managerial and Clerical Labor, Human Resource Support and Development, Travel and Conference Fees, and General and Administrative Overhead (labor and materials).

Total Direct Implementation – includes all financial incentives used to promote participation in a program and the cost of all direct labor, installation and service labor, hardware and materials, and rebate processing and inspection used to promote participation in a program.

Total Marketing & Outreach includes all media buy costs and labor associated with marketing production.

Integrated Budget Allocated to Other Programs includes budget utilized to coordinate with other EE, DR, or DG programs.

Total Budget is the sum of all other columns presented here

Definition of Sub-Program: A “sub-program” of a program has a specific title; targets; budget; uses a unique delivery or marketing approach not used across the entire program; and for resource programs, has specific estimated savings and demand impacts.

2009-2011 Energy Efficiency Programs Energy Efficient Water Pumping Program Implementation Plan

a) Describe program

The Energy Efficient Water Pumping Program, offered by California State University, Fresno's Center for Irrigation Technology, will improve the energy efficiency of water pumps used for irrigation and domestic water supply. The Program will focus on three market sub-segments: Agriculture, Municipal Water Agencies, and Large Turf Recreational Facilities, such as golf courses and sports fields. Industrial process pumps, residential accounts, and primary and secondary sewage pumps will be excluded. To achieve energy savings, this Program will offer SDG&E customers rebates for water pump audits and retrofits and technical assistance/education regarding the operation, maintenance, and repair of water pumps. The reduction in water use will also translate to embedded energy savings, as reduced water use means less energy required to run and deliver water to a water pump.

Program delivery will be performed as follows:

Technical Assistance – Program staff will provide technical assistance to pump owners/operators by answering general questions in person, over the phone (staffed toll-free line), and by email. The Program will also provide educational resources through the www.pumpefficiency.org and www.watertight.org websites. Although site-specific engineering services are not proposed, each customer receiving a pump efficiency test or retrofit will receive a 50-page technical document that covers the basics of pumping efficiency and water management. Technical assistance also involves helping the customer obtain a pump test and completing the incentive retrofit application process, as well as informing the customer of other SDG&E, federal, and state assistance programs.

Rebates for Water Pump Audits – A network of qualified companies (“participating pump test companies”) will conduct pump efficiency tests (pump audits) using software developed for this purpose. The participating pump test companies will satisfy written criteria for experience and sign standardized Professional Services Agreements. (Most pump test companies are either ex-utility employees or pump service companies that perform tests as a daily part of their business.) Once a pump audit is complete, the participating company will submit test results to the Program in a standardized format and the Program will issue a rebate to offset the cost. Only qualifying pump audits that are completed after the program's start date will be eligible to receive a rebate. The target is to complete 330 pump audits over a three-year program timeline.

Incentives for Pump Retrofit Projects – For a customer to receive a pump retrofit incentive, the following actions must be taken:

1. Customer completes a water pump audit to establish an energy use baseline.
2. Customer completes a pump retrofit project. An incentive will be available for the retrofit of an existing water pump that improves efficiency or reduces total energy use. This must include retrofit or replacement of either or both of the bowl and impeller.

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Specific ineligible activities include:

- Repairing an inoperable pump, and
 - Replacing the pump for purely cultural system-related reasons (e.g. switching to a pump with “pressure bowls” to be able to run a sprinkler system).
3. Customer completes a program application, which includes a copy of the pre-project water pump audit, past 12 month energy use, and a paid invoice for the pump retrofit.
 4. The Program approves/rejects the application based on stated eligibility requirements. Upon approval, the Program records energy savings.
 5. The Program issues incentive check. Incentives will be calculated for each individual customer and will be based on the first year energy use savings at the rate of \$0.09/kWh (process energy savings). The incentive will be capped at 50% of the project cost.

Although the Program will not provide engineering services, Staff will be available to the customer at all points throughout the process to recommend qualified pump test professionals, assist with program enrollment, provide technical assistance and guidance, and make available informational documents and educational resources by mail and on the web. The target is to complete 75 pump retrofit projects over the three year program timeline.

b) List measures

- **Water Pump Audit Rebate** – The Program will offer a rebate to help cover the cost of a baseline pump efficiency test, a form of energy audit. The test will determine the baseline performance of the water pump, show the potential for future energy and cost savings, and estimate the potential incentive that can be earned if a pump retrofit project is completed.
- **Water Pump Retrofit Incentive** -- To reduce first costs and improve the payback rate of a pump retrofit project (a significant capital investment), the Program will offer customers a financial incentive that will reimburse up to 50% of the project cost to retrofit a water pump. Similar to the Standard Performance Contract Program, this Program will independently evaluate the potential energy savings of each pump retrofit project to calculate the incentive payment. Incentives will be based on the estimated first-year energy savings at the rate of \$0.09/kWh. Energy savings will be calculated based on a sliding percentage applied to the previous 12 months’ energy use. The percentage will vary from 60.1% down to 9.9%, based on the pre-project pumping efficiency. Therefore a pre-project water pump audit will be required before a pump retrofit project and incentive can be approved.

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Measure	Incentives (per unit)
Water Pump Audit	\$250.00
Water Pump Retrofit	= %Energy Savings * \$0.09 * kWh _{annual}

Where:

kWh_{annual} = Total energy usage in 12 month period prior to project.

% Energy Savings = Variable value based on the pre-project overall pumping plant efficiency as shown in the following table:

Pre-Retrofit Overall Pumping Plant Efficiency (%)	Energy Savings Factor
20 or under	0.601
> 20 to 25	0.538
> 25 to 30	0.475
> 30 to 35	0.413
> 35 to 40	0.350
> 40 to 45	0.287
> 45 to 50	0.225
> 50 to 55	0.162
> 55	0.099

The incentive will be capped so as not to exceed 50% of the project cost.

Note also that the method of incentive calculation outlined above compensates for both climate region and level of customer activity, as it is based on the customer's energy use in the 12 months prior to project completion.

c) List non-incentive customer services

As a non-incentive customer service, the Program will provide educational resources, maintain an informative website, and answer technical questions over the phone so that pump operators can make informed decisions about the operation, maintenance and repair of their water pump. In addition, the Program will provide resources on irrigation management and alert customers to local water conservation incentive and rebate opportunities.

5) Program Rationale and Expected Outcome

a) Quantitative Baseline and Market Transformation Information.

Table 3

	Baseline Metric		
	Metric A	Metric B	Metric C
Overall Program			
Sub Program #1			
Sub Program #2			

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Sub Program #3			
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Market Transformation has not been a major focus of the California energy efficiency programs since the energy crisis. Consequently, relatively little attention has been given in recent years to identifying and gathering data on indicators of change towards market transformation. For some programs or sub-programs that promote a single end use or measure, there may be some data available for this purpose, probably from industry sources, that we have not yet identified. For many of the programs, however, this kind of long-term, consistent, and expensive data collection has not been done in California.

The utility program planners have worked closely with their respective EM&V staffs and with each other to identify available information and propose potential metrics. Each utility and each program has some data available, but attempts to distill the limited available information into a common set of agreed-upon metrics have proved far more difficult to accomplish. Offering metrics in which there is not strong confidence would not be productive. Therefore, the utilities respectfully exclude "draft" metrics at this time and instead suggest a means of developing meaningful indicators.

The utilities will develop meaningful baseline and market transformation concepts and metrics for programs that do not currently have them, and then propose to design and administer studies to gather and track consistent, reliable and valid baseline and market effects data. We would propose to use the program logic models and The California Evaluation Framework (2004) as guides, and to begin this work after approval of the Application using funding provided for Evaluation, Measurement & Verification.

We expect that the baseline studies (1) adequately describe the operation of markets that are targeted by a program, (2) confirm our tentative identification of measurable parameters that would indicate changes towards greater efficiency in the market(s) and that are likely to be affected by the program, and (3) gather the current values of those parameters, to serve as baselines against which future market movement can be tracked.

a) Market Transformation Information

Table 4

Market Sector and Segment	Internal Market Transformation Planning Estimates		
	2009	2010	2011
Metric A			
Metric B			
Metric C			
Metric D			

As explained immediately above, the utilities propose to provide these draft metrics when available.

b) Program Design to Overcome Barriers.

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There are three main barriers that prevent pump owners from improving water pump efficiency. They include:

- **Hidden Costs:** The water pump is often just one component of an operation's total energy picture. If not called out separately on a utility bill, pump costs remain hidden and the opportunity to improve pump efficiency is overlooked.
- **Lack of Pump-Specific Cost Information:** Until a pump audit is conducted, many pump owners don't know the potential energy and cost savings that can be gained through a pump retrofit.
- **Access to Capital:** Pump retrofits can represent a significant capital cost, averaging about \$15,000 per pump.

Barrier	Solution
Lack of customer information about energy efficiency benefits <ul style="list-style-type: none"> - Hidden costs - Lack of pump-specific cost information 	To overcome the two knowledge barriers to pump retrofit, the Program will offer customers technical assistance and subsidized pump audits. The pump audit is a key element of the Program because it calls out the hidden cost of pump use, letting the pump owner know exactly how much an individual pump costs to operate.
Lack of financing for energy efficiency improvements	This Program will provide a cash incentive to reimburse up to 50% of the pump retrofit project cost. If further financial assistance is necessary, the customer can turn to On Bill Financing, a separate SDG&E offering through which customers have the option to spread the remaining capital cost over time at a 0% interest rate. Potentially, the energy savings gained through pump retrofit could meet or even exceed the monthly On Bill Financing loan payment, virtually eliminating the capital barrier to implementation.

c) Quantitative Program Targets

Table 5

Energy Efficient Water Pumping	Program Target by 2009	Program Target by 2010	Program Target by 2011
Water Pump Audits	80	120	130
Water Pump Retrofits-Agricultural	5	10	10
Water Pump Retrofits-Municipal	10	20	20
Technical Assistance/Education	80	120	130

Note: Values provided represent yearly targets.

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d) Advancing Strategic Plan Goals and Objectives

This Program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
Program will provide baseline data that will inform SDG&E and CPUC of the current energy use of water pumps and the energy efficiency potential in this sector.	Agriculture	Establish and maintain a knowledge base sufficient to support development of all available, cost-effective, reliable, and feasible energy efficiency, demand reduction (and renewable) energy resources.	1-1: Develop knowledge base of efficiency solutions
Program provides technical assistance/education to train pump operators	Agriculture	Establish and maintain a knowledge base sufficient to support development of all available, cost-effective, reliable, and feasible energy efficiency, demand reduction (and renewable) energy resources.	1-2: Ensure workforce has information and training necessary to apply efficiency solutions
Program supports SP's plans for designing/launching program for irrigation efficiency	Agriculture	Achieve significant increases in the efficiency of electricity and natural gas use and onsite renewable energy utilization, including setting a specific target for irrigation efficiency.	3-1 Make information on efficiency solutions readily available to motivate efficiency improvements.

6) Program Implementation

a) Statewide IOU Coordination:

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing and outreach plans, e.g. research, target audience, collateral, delivery mechanisms.
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

The Energy Efficient Water Pumping Program is part of a statewide effort to improve water pump efficiency. The same third-party implementer who offers this program to SDG&E customers also implements PG&E's Agricultural Pumping Efficiency Program. In addition, the Contractor has worked as a third-party to augment SCE's Pump Test and Hydraulic Services Program. This Program is also considered to be a sub-program

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component of the Statewide Agriculture Energy Efficiency Program and the Statewide Industrial Energy Efficiency Program. Thus, the Program is in a prime position to take advantage of existing synergies (e.g., existing website, databases, and pump tester's software, as well as experience regarding the retrofit incentive application process). These synergies allow SDG&E to benefit from economies of scale and will also create consistency statewide. Ensuring statewide consistency in program structure and implementation will be coordinated by the IOUs as described in the PIPs Section 6.0a for these programs.

The prime objective of PG&E's Agricultural Pumping Efficiency Program and SDG&E's proposed Energy Efficient Water Pumping Programs is improvement in water pump efficiency. In addition, a second objective is to integrate and coordinate efforts directed at combined water and energy conservation. SDG&E will work with local water agencies to promote and create customer awareness of other applicable energy and water resource management programs offered by SDG&E, local water agencies, and state and federal agencies.

b) Program Delivery and Coordination:

- i. Emerging Technologies program
- ii. Codes and Standards program
- iii. WE&T efforts
- iv. Program-specific marketing and outreach efforts (provide budget)
- v. Non-energy activities of program
- vi. Non-IOU Programs
- vii. CEC work on PIER
- viii. CEC work on codes and standards
- ix. Non-utility market initiatives

i. Emerging Technologies program

The Energy Efficient Water Pumping Program is not specifically coordinated with statewide emerging technologies efforts.

ii. Codes and Standards program

This Program does not address codes and standards.

iii. WE&T efforts

The Energy Efficient Water Pumping Program will offer technical resources and assistance to pump owners and operators. In addition, SDG&E will provide formal workforce education and training sessions on pump efficiency and pump audits, as described in the Statewide Agriculture Energy Efficiency Program and Statewide Industrial Energy Efficiency Program PIPs.

iv. Program-specific marketing and outreach efforts

Previous experience implementing water pump efficiency programs in other IOU territories has shown that face-to-face interactions are much more effective than

2009-2011 Energy Efficiency Programs Energy Efficient Water Pumping Program Implementation Plan

mass media materials in marketing water pump efficiency (refer to the Executive Summary of the EM&V report for the Center for Irrigation Technology's Agricultural Pumping Efficiency Program - Phase II by Equipose Consulting, downloadable from www.calmac.org as paper CIT0002.01, CPUC). Face-to-face interactions that took place during the pump audit were shown to increase program visibility and the likelihood that subsequent pump retrofit projects would be implemented. Further, contact with one individual at a municipal agency or water district has the potential to impact multiple pumping systems. Therefore, to reach targeted customers, the Program will rely on the SDG&E account representative network, personal contacts, and participating pump test companies to promote the Program and enlist customer participation. Both the Program and the pump audit companies have expertise in water pump efficiency and water management and will be able to distribute incentives/rebate information to customers.

The Program website will provide downloadable program applications, eligibility guidelines, a contact list of participating companies, and links to pump efficiency and water management resources. Finally, all customers who participate in the Program through either a pump test or pump retrofit will receive a 50-page pump efficiency and water management handbook.

Eligible customers are water pump owners/operators of domestic and tertiary-treated (reclaimed) water supply pumps, agricultural fields, municipal parks, and large turf recreational facilities (e.g., golf courses, sports fields). Specifically excluded from the Program are owners/operators of industrial processing pumps, primary and secondary sewage pumps, and residential accounts.

The marketing budget for this Program is \$22,000. This amount is lower than would otherwise be needed because the two websites, www.pumpefficiency.org and www.waterright.org are already in place, the technical pamphlet has been written, at least one pump test company is in place and ready to begin work, and as noted above, the existing SDG&E account representative network will also be involved.

v. Non-energy activities of program

Currently, the State of California is experiencing a drought and water shortages are forcing water agencies to adopt water conservation policies and regulations. Several state and federal agencies such as the Department of Water Resources, U.S. Department of Food and Agriculture, and U.S. Natural Resources Conservation Service are involved in efforts to improve the efficiency of water use. The Energy Efficient Water Pumping Program complements and supports these efforts. The Program will inform customers about efficient irrigation practices, providing hardcopy and web-based educational resources. The delivery of this type of information is appropriate for an energy program, as a customer's improvement in irrigation will not only reduce water use, but the energy required to run a water pump.

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vi. Non-IOU Programs

Not applicable to this third-party program.

vii. CEC work on PIER

The PIER Industrial-Agriculture-Water End-Use Program promotes the development of techniques for advanced irrigation and load management practices. The Program also focuses on advanced irrigation practices for water conservation and water recovery. This Program supports the efforts of the PIER Industrial-Agriculture-Water End-Use Program by offering agricultural, municipal, and recreational customers technical assistance and educational resources that lead directly to the improved efficiency of water pumps and the efficient use of water resources. Improved irrigation management not only reduces water consumption, it also reduces the amount of energy required to pump water, resulting in “embedded” energy savings that are additional to the energy savings that result from pump retrofit.

viii. CEC work on codes and standards

Not applicable to this third-party program.

ix. Non-utility market initiatives

Not applicable to this third-party program.

c) Best Practices

The Program implements the following Best Practices, as defined by the Best Practices Benchmarking for Energy Efficient Programs:

- *Anticipates and tackles large non-residential market challenges directly.* The most challenging market barrier to implementation is the cost to retrofit water pumps. The Program tackles this challenge by offering financial incentives that will cover up to 50% of the project cost. In addition, the subsidized pump audit provides a reasonably accurate estimate of annual energy savings. Thus, the customer is provided with objective information that allows an informed decision.
- *Integrates all program data, including measure-level data, into a single database.*
- *Requires pre-inspections for large projects with highly uncertain baseline conditions that significantly affect project savings.* The Program requires that a baseline pump audit be conducted before a retrofit project occurs.
- *Keep the application process and forms from being overly complex and costly to navigate while at the same time not being over-simplified.* The application process has been developed over a six year period by the Contractor.
- *Provide technical assistance to help applicants through the process.*

2009-2011 Energy Efficiency Programs Energy Efficient Water Pumping Program Implementation Plan

- *Develop a cadre of trade allies who can then assist customers through the process.*
- *Use the program's website to broadly inform the market and attract participation.*

d) Innovation

This Program is innovative in that it provides technical and financial assistance to water pump owners and the combination of services needed to achieve a high level of water pump retrofits.

e) Integrated/Coordinated Demand Side Management

This Program supports integrated demand-side management efforts by informing customers about other SDG&E program offerings for energy efficiency and demand response, as well as water efficiency programs offered by local water districts.

f) Integration Across Resource Types (energy, water, air quality, etc)

Though focused on water pumps, this Program serves as a point of contact and lead for energy efficiency and demand response programs offered by SDG&E and water conservation programs offered by SDG&E partner agencies such as the San Diego County Water Authority. Therefore, the Program acts as an information channel, enabling customers to consider comprehensive energy efficiency retrofits for their entire facility or operation.

g) Pilots

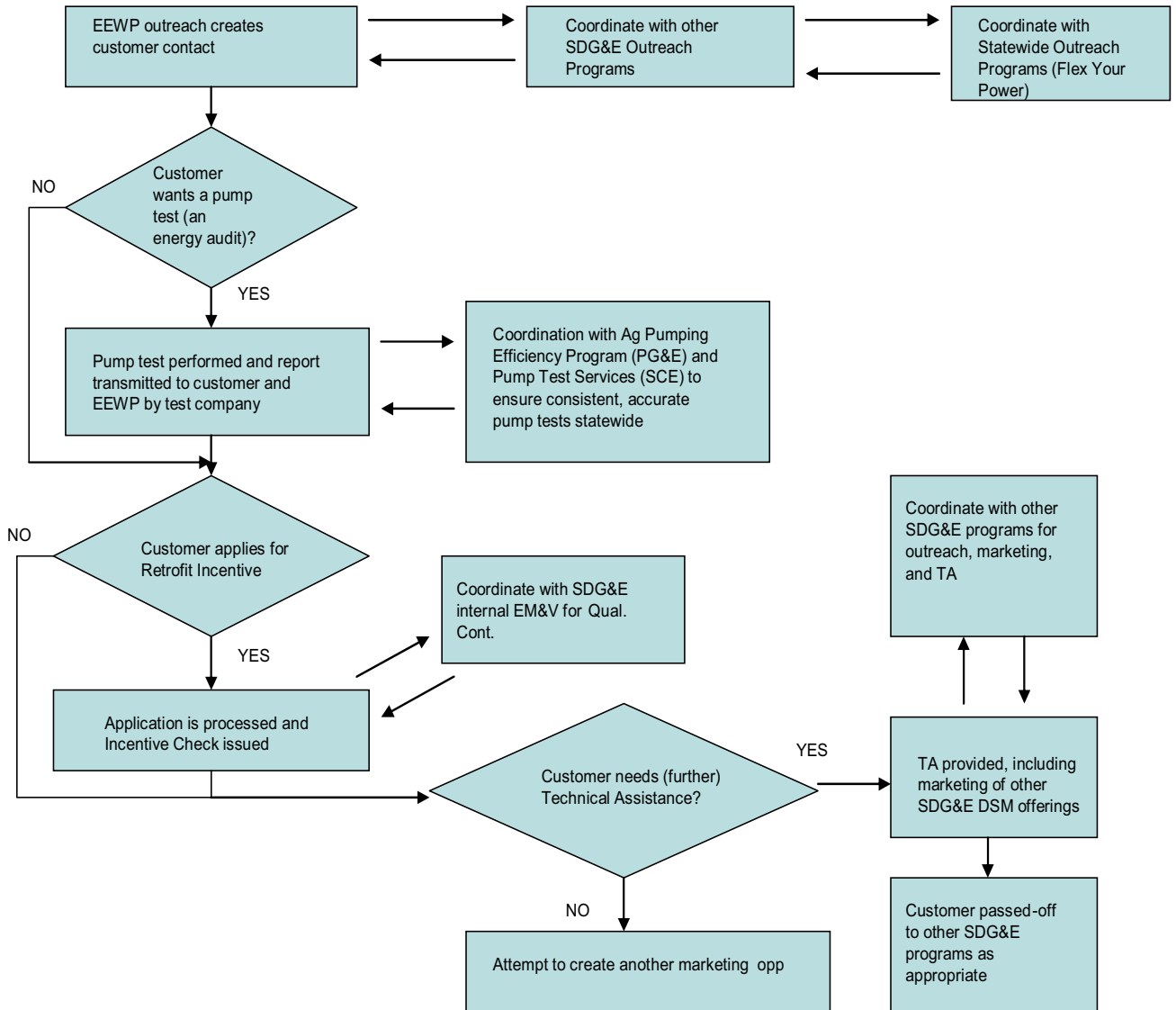
This is not a pilot program.

h) EM&V

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2009-2011 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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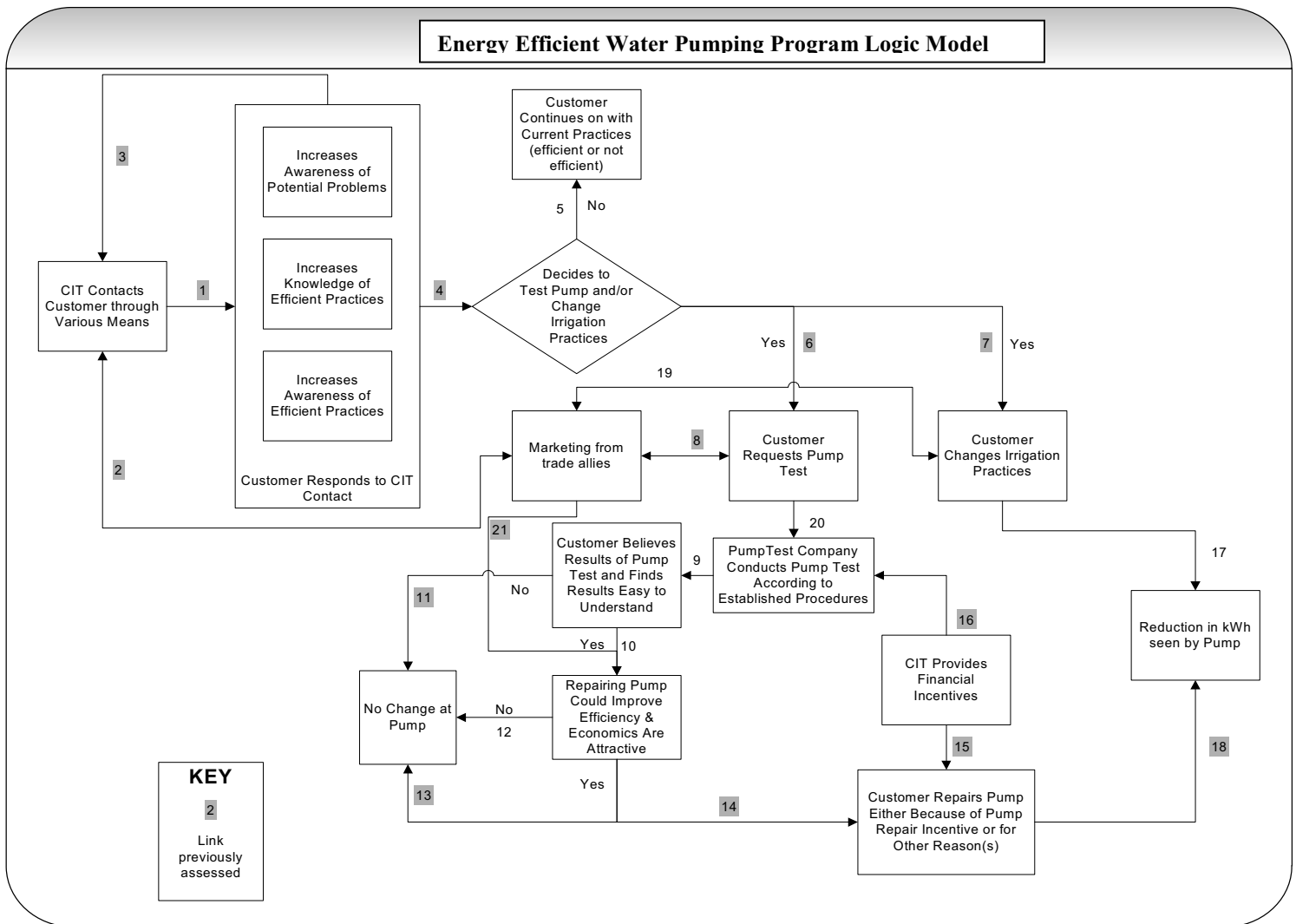
7) Diagram of Program:



2009-2011 Energy Efficiency Programs Energy Efficient Water Pumping Program Implementation Plan

8) Program Logic Model

This Program Logic Diagram was presented as part of the EM&V plan for the Agricultural Pumping Efficiency Program (APEP), designed and implemented by the Center for Irrigation Technology (CIT) as a Third Party program from 2004-2005. The proposed Energy Efficient Water Pumping program is entirely similar to APEP and thus, the following diagram is accurate as to the proposed program logic:



Taken from "Research Plan for Evaluation of the California Irrigation Technology 2004_2005 Agricultural Pumping Efficiency Program" by Equipose Consulting, Inc.